

at the apex with orange-red. The head, thorax, abdomen, antennæ, and legs black. Expanse  $1\frac{1}{2}$  inch.

*Hab.* Aola.

A beautiful species, allied to *S. euchromiella*, Walk., but very distinct.

Fam. HYPNOMEUTIDÆ.

53. CORINEA MATHEWI.

*Corinea mathewi*, *Batl. Ann. & Mag. Nat. Hist.* ser. 5, xx. p. 414.

Two specimens, identical with those in the British Museum from Malaya.

EXPLANATION OF PLATE XXIX.

- Fig. 1. *Eusemia siriella*, ♂, n. sp., p. 571.
2. *Cleis nenia*, ♀, n. sp., p. 572.
3. *Callidrepana argentifera*, ♂, n. sp., p. 574.
4. *Phalera peruda*, ♂, n. sp., p. 574.
5. *Alcides latona*, ♂, p. 577.
6. *Satara woodfordi*, ♂, n. sp., p. 576.
7. *Bociraza vacuna*, n. sp., p. 576.
8. *Sippharara woodfordi*, n. sp., p. 579.

3. On the Lepidoptera of Japan and Corea.—Part II.  
Heterocera, Sect. I.<sup>1</sup> By J. H. LEECH, B.A., F.R.G.S.,  
F.L.S., F.Z.S., F.E.S., &c.

[Received November 26, 1888.]

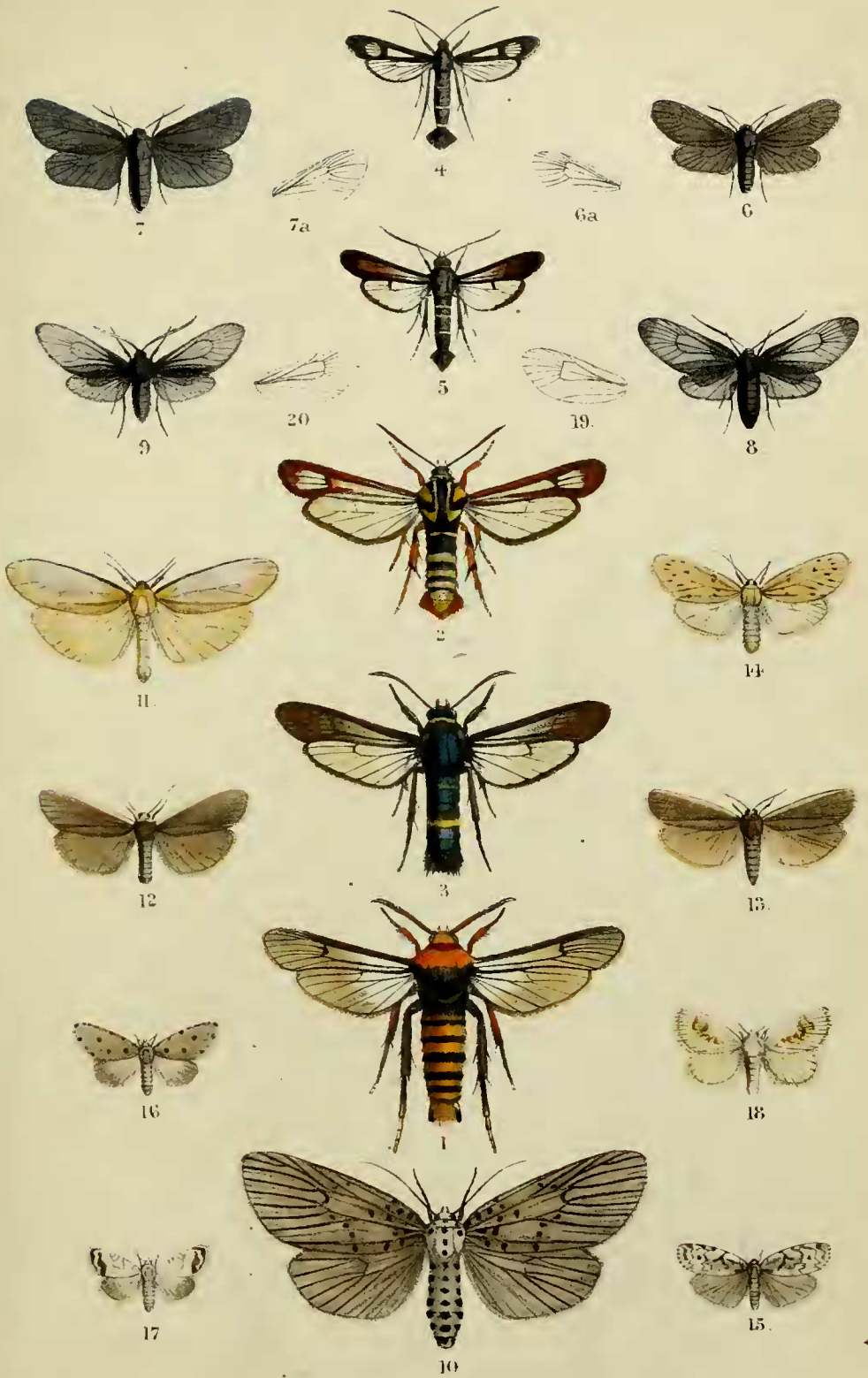
(Plates XXX.—XXXII.)

I must apologize for the tardy appearance of the second part of this paper, which has been delayed in order to make it as complete as possible by acquiring more material. Since leaving Japan, in 1886, I have received many valuable consignments of Lepidoptera, both from natives in my employ and also from Europeans interested in Entomology, especially from the Rev. F. Andrews of Hakodate and Mr. Manley of Yokohama.

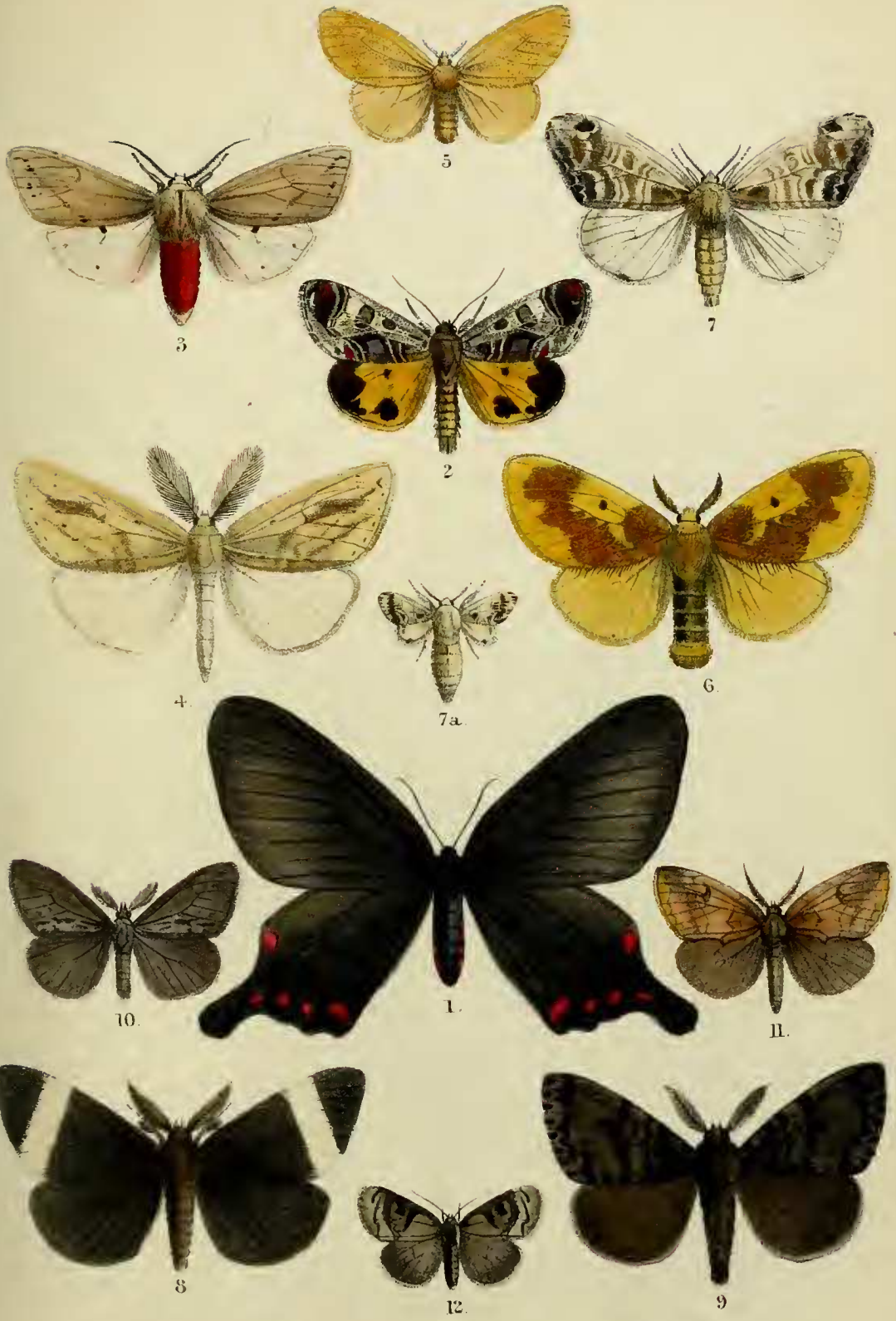
Last April we received the news of the death of that most indefatigable entomologist, Mr. Henry Pryer, who had long resided in Japan and devoted all his leisure to natural history. To Mr. Pryer we are indebted for the discovery of the majority of the Lepidoptera peculiar to Japan<sup>2</sup>. Although his conclusions, owing to his complete isolation from libraries and museums, were frequently erroneous, yet his work was characterized by that common sense which is to be found in the work of so many practical field-naturalists. I was fortunate enough to procure the whole of Mr. Pryer's entomological collections, with the exception of part of the Deltoids and Pyrales, by purchase, and they form an important part of the material for the present paper. Out of 38 species which I now

<sup>1</sup> For Part I. see P.Z.S. 1887, p. 398.

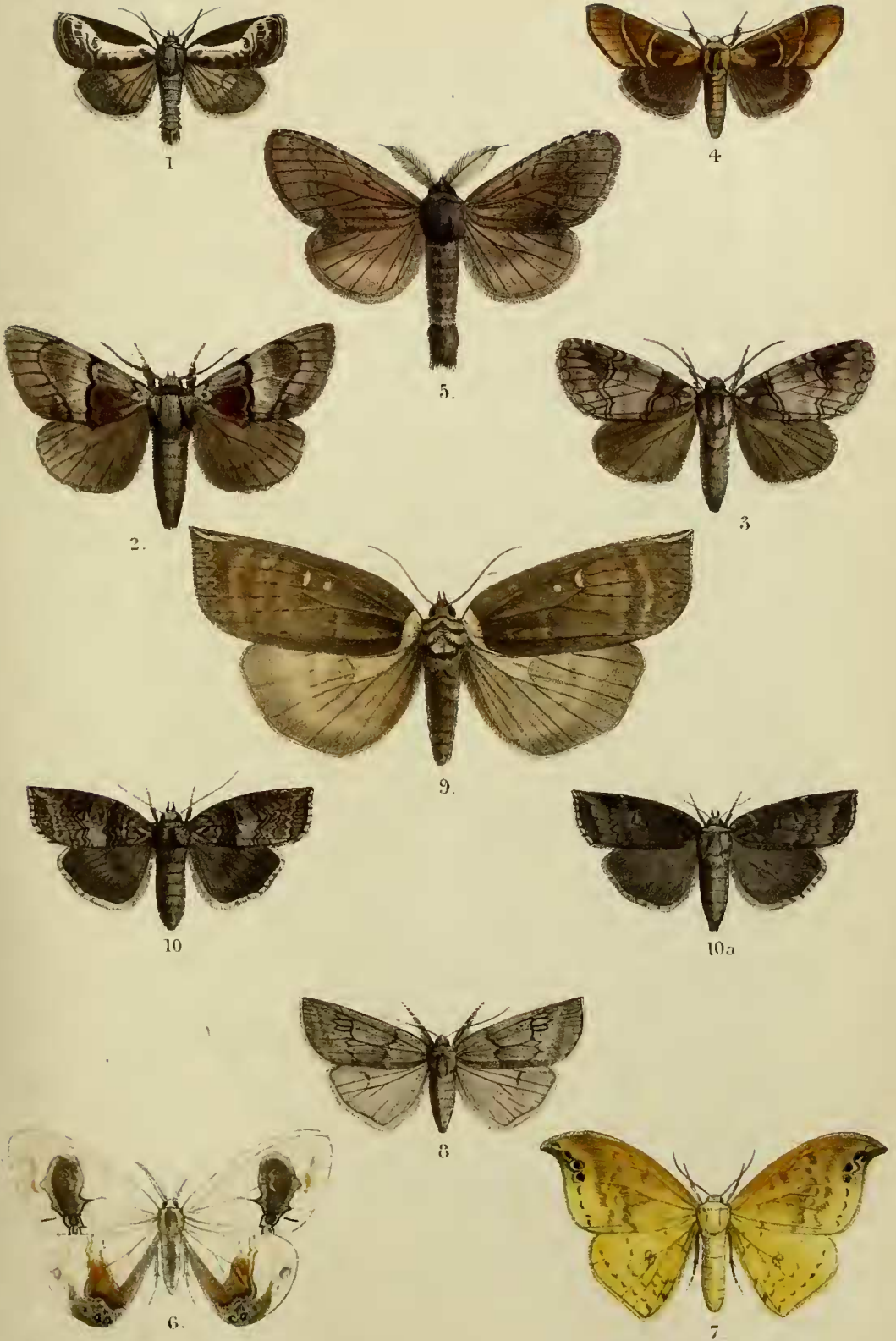
<sup>2</sup> A list of Japanese Lepidoptera, referred to in this paper as 'Pryer's Catalogue,' will be found in the Transactions of the Asiatic Society of Japan, vols. xi. and xii.













describe as new to science, 20 are from Mr. Pryer's collection and the remaining 18 were discovered by myself during the summer of 1886. Considering that in a single season I succeeded in taking 80 per cent. of the species of the groups referred to in this paper as occurring in Japan, but that, although collecting for the greater part of the time in localities never before visited by an entomologist, I only succeeded in capturing 18 new species, we may conclude that the Lepidopterous fauna of Japan is fairly well known. It is satisfactory to note that of the 352 species included in this paper over 200 were described in this country, principally by Mr. Butler, Mr. Moore, and Mr. Walker; many, however, as will be seen from the synonymy, have been subsequently redescribed on the continent from specimens received from N.E. Asia, by entomologists unacquainted with the types in our National Collection.

### 1. CEPHONODES HYLAS.

*Sphinx hylas*, Linn. Mant. i. p. 539.

*Sphinx picus*, Cram. Pap. Exot. ii. p. 83, pl. 148. fig. B.

*Sesia hylas*, Fabr. Ent. Syst. iii. 1, p. 379. 3; Walk. Cat. Lep. Het. viii. p. 84.

*Cephonodes hylas*, Hübn. Verz. Schmett. p. 131. 1402.

*Hemaris hylas*, Saalm. Lep. Madag. i. p. 117, pl. 3. fig. 40.

Several specimens from Satsuma in May and Nagasaki in May and June, and there were six examples in Pryer's collection.

Satsuma and Nagasaki (*Leech*); Yokohama (*Pryer*); and generally distributed throughout the warmer portions of the Old World.

### 2. HEMARIS RADIANS.

*Sesia radians*, Walk. Cat. Lep. Het. viii. p. 84 (1856).

*Hemaris radians*, Butl. Ill. Typ. Lep. Het. pt. ii. p. 1, pl. xxi. fig. 2 (1878).

*Hemaris mandarina*, Butl. Proc. Zool. Soc. 1875, p. 239.

The fuscous band on the outer margin of the primaries is variable as regards width, and the radiations emanating therefrom towards centre of wing are often conspicuous, but in some examples these are entirely absent. These latter agree exactly with description and figure of *H. mandarina*, Butl., from Shanghai. Appears to be the Oriental representative of *H. bombylifformis* as *H. alternata* is of *H. fuciformis*.

Yokohama (*Jonas* and *Pryer*); Oiwake (*Pryer*); Nagasaki, Fushiki, Gensan (*Leech*); Shanghai (*Fortune*); Kiukiang (*Pratt*); Corea (*Herz*).

### 3. HEMARIS ALTERNATA.

*Sesia alternata*, Butl. Ann. & Mag. Nat. Hist. (4) xiv. p. 366 (1874).

*Hemaris alternata*, Butl. Ill. Typ. Lep. Het. pt. ii. p. 1, pl. xxi. fig. 2 (1878).

The inward radiation is sometimes so pronounced as to give an appearance of opacity to the disk of the wing.



Examples of this species in Pryer's collection bear the same number (30) as specimens of *H. radians*; it is therefore not possible to say which insect he refers to in his catalogue, where he remarks "Common at Yokohama. I have bred it from larva found feeding on the Weglia."

Yokohama (*Pryer* and *Jonas*); Hakodate (*Whitely*); Oiwake (*Pryer*); Gensan (*Leech*).

#### 4. HEMARIS AFFINIS.

*Macroglossa affinis*, Brem. Bull. de l'Acad. tom. iii. 1863; Lep. Ost-Sib. p. 35, tab. iii. fig. 13.

? *Hemaris alternata*, Butl. teste Fixsen, Rom. Mém. sur Lép. iii. p. 323.

Recorded from Corea (*Herz*).

#### 5. HEMARIS SIEBOLDI.

*Macroglossa sieboldi*, Boisd., de l'Orza, Lép. Jap. p. 35 (1869).

*Sesia whitelyi*, Butl. Ann. & Mag. Nat. Hist. (4) xiv. p. 367 (1874).

Two examples, Hakodate, and there were four specimens in coll. Pryer. Said by Pryer to be common at Yokohama.

Gifu (*Pryer*); Hakodate (*Leech*).

#### 6. MACROGLOSSA BOMBYLANS.

*Macroglossa bombylans*, Boisd. Sp. Gén. Lép. p. 334 (1875).

Several specimens in Satsuma in May and at Nikko in September and Oiwake in October. Exhibits considerable variation in the character of yellow marking of secondaries.

Yokohama (*Pryer*); Satsuma, Nikko, Oiwake (*Leech*); Kiukiang (*Pratt*).

#### 7. MACROGLOSSA PYRRHOSTICTA.

*Macroglossa pyrrhosticta*, Butl. Proc. Zool. Soc. 1875, p. 242, pl. xxxvi. fig. 8.

*Macroglossa saga*, Butl. Ent. Mo. Mag. xiv. p. 206 (1878); Ill. Typ. Lep. Het. pt. ii. p. 1, pl. xxi. fig. 1 (1878).

One example at Nagahama and one at Gensan in July. Several specimens coll. Pryer.

Yokohama (*Jonas* and *Pryer*); Nagahama and Gensan (*Leech*); Kiukiang (*Pratt*); Shanghai.

#### 8. MACROGLOSSA STELLATARUM.

*Sphinx stellatarum*, Linn. Syst. Nat. x. p. 493; Hübn. Sphing. p. 94, pl. ix. fig. 57.

*Macroglossa stellatarum*, Steph. Ill. Brit. Ent. Haust. i. p. 133. 1.

I met with this species at several places in Japan, and Pryer notes it common at Yokohama. The specimens are very typical.

Yokohama (*Pryer*); Oiwake (*Pryer* and *Leech*); Nagahama, Nikko, Hakodate, Nemoro, Foochau (*Leech*); North China. Teneriffe; Europe.

9. *LOPHURA SANGAICA.*

*Lophura sangaica*, Butl. Proc. Zool. Soc. 1875, p. 621.

Occurred in Satsuma in May, at Nagasaki in June, Fushiki and Shimonoseki in July, and Gensan in August. Pryer in his catalogue notes it as common at Yokohama; but there were only five examples in his collection.

Satsuma, Nagasaki, Shimonoseki, Fushiki (*Leech*); Gensan (Nat. Coll.).

10. *AMPHELOPHAGA RUBIGINOSA.*

*Amphelophaga rubiginosa*, Brem. & Grey, Beitr. zur Schmett.-Faun. Nörd. China's, p. 52.

*Deilephila rubiginosa*, Walk. Cat. Lep. Het. viii. p. 173.

*Deilephila romanovi*, Staud., Rom. Mém. sur Léop. iii. pl. ix. fig. 1.

Three specimens from Yokohama. Except that the olivaceous markings on primaries and abdomen are of a rather browner tint, these Japanese representatives of the species agree exactly with Kiukiang examples.

There was one example of this species in Pryer's collection labelled Oiwake. It is no. 20 of his catalogue, where he remarks "Also about Yokohama, but not so common as the preceding species" (No. 19. *Clamis bilineata*).

Yokohama (*Manley* and *Pryer*); Oiwake (*Pryer*); N. China (*Bremer*); Kiukiang (*Pratt*); Corea (*Herz*).

11. *PERGESA MONGOLIANA.*

*Pergesa mongoliana*, Butl. Proc. Zool. Soc. 1875, p. 622.

A common species at Yokohama.

Some of the specimens in Pryer's collection and one I received from Manley have a luteous submarginal band on primaries; this has its external edge much indented, but its internal edge is ill-defined. In the same specimens there is a distinct luteous oblique streak at anal angle of secondaries.

I am disposed to consider *P. mongoliana*, Butl., a local form of *P. velata*, Walk.

Yokohama (*Pryer* and *Manley*); Kiukiang (*Pratt*).

12. *DEILEPHILA GALII.*

*Sphinx galii*, Fabr. Sp. Ins. ii. p. 147. 33; Hübn. Sphing. p. 96, pl. xii. fig. 64.

*Deilephila galii*, Steph. Ill. Brit. Ent. Haust. i. p. 125, pl. xii. fig. 2.

Two examples in Pryer's collection, neither are localized; but in his catalogue Pryer says, "I took one specimen at Fujisan in June. The yellow bed-straw (*Galium verum*) is a common plant there." One specimen came under my notice at Tsuruga in July. It was hovering over flowers on the side of a mountain in the neighbourhood of that town.

Fujisan (*Pryer*). North America; Europe.

## 13. CHÆROCAMPA CLOTHO.

*Sphinx clotho*, Drury, Exot. Ins. ii. p. 48, pl. 28. fig. 1.

*Chærocampa clotho*, Walk. Cat. Lep. Het. viii. p. 141 (1856).

I took a specimen in Satsuma in May.

Satsuma (*Leech*). Silhet, North India, Ceylon, Java.

## 14. CHÆROCAMPA JAPONICA.

*Chærocampa japonica*, Boisd. Ins. Léop. Hét. i. p. 241.

In his catalogue Pryer observes of this species that it is common about Yokohama. I took it in Satsuma in May, and at Nagasaki in June, and Hakodate in August.

Yokohama (*Pryer*); Satsuma, Nagasaki, Hakodate (*Leech*); Corea (*Herz*).

## 15. CHÆROCAMPA OLDENLANDIÆ.

*Sphinx oldenlandiæ*, Fabr. Sp. Ins. ii. p. 148. 37.

*Xylophanes gortys*, Hübn. Zeit. Samml. exot. Schmett. p. 28. 513, 514; Walk. Cat. Lep. Het. viii. p. 142.

A long series of this species, including several specimens bred at this Society's Gardens, from larvæ which I brought from Yokohama, where the larvæ are common, feeding on taro and balsam.

Yokohama (*Pryer* and *Leech*). North India, Java, Australia, Sydney.

## 16. CHÆROCAMPA NESSUS.

*Sphinx nessus*, Drury, Ill. Exot. Ins. ii. p. 46, pl. xxvii. fig. 1 (1773).

*Theretra equestris*, Hübn. Verz. bek. Schmett. p. 135 (1816).

*Chærocampa nessus*, Walk. Cat. Lep. Het. viii. p. 140 (1856).

This appears to be a common species at Yokohama. Nine specimens in Pryer's collection are fairly constant in coloration.

Yokohama (*Pryer*). North India, Silhet, Ceylon, Hong Kong, Java, Kanara.

## 17. CHÆROCAMPA ELPENOR.

*Sphinx elpenor*, Linn. Syst. Nat. x. p. 492; Hübn. Sping. p. 96, pl. x. fig. 61.

*Chærocampa elpenor*, Westw. & Humph. Brit. Moths, i. p. 22, pl. 51. figs. 7-8.

♂. *Chærocampa macromera*, Butl. Proc. Zool. Soc. 1875, p. 7; Ill. Typ. Lep. Het. v. pl. lxxix. fig. 3.

♀. *Chærocampa fraterna*, Butl. Proc. Zool. Soc. 1875, p. 247; Ill. Typ. Lep. Het. v. pl. lxxix. fig. 4; *teste* Fixsen, Rom. Mém. sur Léop. iii. p. 321.

*Chærocampa lewisii*, Butl. Proc. Zool. Soc. 1875, p. 247.

Except that some examples are more rosy than the type, the specimens from Oiwake, in Pryer's collection, and others I took at Shimonoseki and Gensan in July, are not separable from *C. elpenor*.

Oiwake (*Pryer*); Shimonoseki, Gensan (*Leech*); Kiukiang (*Pratt*); Hakodate.

## 18. CINOGON ASKOLDENSIS.

*Smerinthus askoldensis*, Oberth. Etud. d'Entom. v. p. 251, pl. i. fig. 3 (1880).

*Cinogon cingulatum*, Butl. Trans. Ent. Soc. 1881, p. 2.

Two specimens in Pryer's collection, one of which is labelled Oiwake. These agree well with Oberthür's figure of *S. askoldensis* and also with Butler's description of *C. cingulatum*.

Oiwake, Japan (Pryer); Askold, Hakodate (Andrews).

## 19. ACOSMERYX ANCEUS.

*Sphinx anceus*, Cram. Pap. Exot. iv. p. 124, pl. 355. f. A.

*Enyo anceus*, Hübn. Verz. Schmett. p. 132. 1423; Walk. Cat. Lep. Het. viii. p. 119.

*Acosmeryx anceus*, Butl. Trans. Zool. Soc. 1876, p. 544, pl. 90. figs. 11 & 12 (larva and pupa).

*Acosmeryx metanaga*, Butl. Ann. & Mag. Nat. Hist. (5) iv. p. 350 (1879).

Pryer says that this species is common at Yokohama, in which locality the eight examples in his collection were probably obtained. In some specimens there is no trace of yellow in the discal spot; but as this spot is really a small tuft of raised yellow scales surrounded with a more or less distinct fuscous ring, absence of the yellow may be due to condition of the specimens.

Yokohama (Pryer); Kiukiang (Pratt); Amboina.

## 20. AMBULYX SCHAUFFELBERGERI.

*Ambulyx schauffelbergerei*, Brem. & Grey, Beitr. zur. Schmett. Nörd. China's, p. 53.

I got a specimen at Nagasaki in June; three coll. Pryer and two from Mr. Manley. This is probably a local form of *A. substrigilis*, Westw., as possibly are also *A. maculifera* and *A. consanguis*, Butl. The Japanese insects agree very well with the last-named, but the transverse lines are not clearly defined.

Nagasaki (Leech); Yokohama (Pryer and Manley); North China.

## 21. TRIPTOGON SPERCHIUS.

*Smerinthus sperchius*, Mén. Enum. Lep. Mus. Petrop. p. 137, pl. 13. fig. 5 (1857).

*Triptogon piceipennis*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 393 (1877); Ill. Typ. Lep. Het. pt. ii. p. 2, pl. xxi. fig. 4 (1878).

*Triptogon gigas*, Butl. Proc. Zool. Soc. 1875, p. 253; Ill. Typ. Lep. Het. pt. v. p. 12, pl. lxxx. fig. 5 (1881).

(Pryer records the larvæ as feeding on chestnut in the neighbourhood of Yokohama.)

In tone of colour, curvature, angulation, and distance apart of the transverse linear markings this species exhibits much aberration. With the exception of an example I took at Tsuruga in July, and one sent me by Manley from Yokohama, all my specimens are from

Pryer's collection. These are without locality labels, but bear his catalogue number (8), and are most probably from Yokohama. In the entire series there are examples agreeing with *S. sperchius*, Mén., others with *T. piceipennis*, Butl., and others again with *T. gigas*, Butl., whilst in a few the tint of colour, shape, and direction of lines, &c. are not quite identical with either. As I do not feel justified in describing these as distinct, I am obliged to consider them and also the three aberrations named and described as forms of one species.

## 22. TRIPTOGON COMPLACENS.

♂. *Smerinthus complacens*, Walk. Cat. Lep. Het. Suppl. i. p. 40 (1864).

♀. *Smerinthus dyras*, var. β, Walk. Cat. Lep. Het. viii. p. 251 (1856); Bull. Ill. Typ. Lep. Het. pt. iii. p. 2, pl. xli. fig. 4.

*Triptogon roseipennis*, Butl. Proc. Zool. Soc. 1875, p. 257; Trans. Zool. Soc. ix. p. 588, pl. xci. fig. 6, transformations (1876); Ill. Typ. Lep. Het. pt. iii. p. 2, pl. xli. fig. 3 (1879).

? *Smerinthus gaschkewitschii*, Brem. Beitr. Schm. N. China, p. 13.

A fine series showing considerable variation in colour.

Yokohama (*Pryer* and *Manley*); Nagasaki (*Leech*); Hakodate.

## 23. SMERINTHUS DISSIMILIS.

*Triptogon dissimilis*, Brem. Bull. de l'Acad. Sci. St. Pétersb. 1864, tom. iii.

*Smerinthus dissimilis*, Brem. Lep. Ost-Sib. p. 35, pl. iii. fig. 12 (1864).

This is no. 5 of Pryer's catalogue, and there were three examples in his collection, two of which were from Tokio and one with aborted hind wings, probably a bred specimen, from Oiwake. In colour all three differ from a specimen I have from Kiukiang, but the markings are exactly alike in all four. Japanese examples agree better with Amur specimens in colour.

Tokio, Oiwake (*Pryer*); Kiukiang (*Pratt*); Ussuri (*Bremer*).

## 24. SMERINTHUS CHRISTOPHI.

*Smerinthus christophi*, Staud., Rom. Mém. sur Lép. iii. p. 162, pl. ix. fig. 3 a, b, & pl. xi. fig. 1 (1887).

This species appears to be closely allied to *S. tilia*, Linn.

Fujisan, Yesso (*Pryer*); Amur.

## 25. SMERINTHUS TATARINOVII.

*Smerinthus tatarinovi*, Bremer, Motsch. Etud. Ent. 1852, p. 62.

*Smerinthus eversmanni*, Popoff, Bull. Soc. Imp. Nat. Mosc. 1854, ii. p. 182, pl. 1. fig. 5.

Pryer says this species is not uncommon about Yokohama, but there were only four examples in his collection; of these one has the primaries suffused with pink and the central band and apical patch are russet-brown. Six other specimens in his series are from Yesso, and are much smaller and paler in colour.

Yokohama (*Pryer* and *Manley*); Yesso (*Pryer*).

## 26. SMERINTHUS OCELLATUS.

*Sphinx ocellata*, Linn. Syst. Nat. x. p. 489.

*Sphinx salicis*, Hübn. Sping. p. 73.

*Smerinthus ocellatus*, God. Hist. Nat. Léop. Fr. iii. p. 20, 2.

*Smerinthus planus*, Walk. Cat. Lep. Het. viii. p. 254 (1856).

*Smerinthus argus*, Mén. Enum. Lep. Mus. Petrop. no. 1561, p. 136, tab. xiii. fig. 3 (1857).

There is nothing whatever in the Asiatic form (i. e. *planus*, Walk.) of *S. ocellatus* to separate it from that species. As we find variation in colour and markings in any good series of European *S. ocellatus*, so also do we find this to be the case where a number of Japanese specimens of the species are brought together. These last are exactly like Kiukiang and Gensan examples, and there is not a specimen in my Asiatic series for which I cannot find an exact counterpart among my European series. Pryer says of *S. planus*, "The larva is green with a green horn instead of sky-blue as in *S. ocellatus*." As no other point of difference is referred to, it is to be assumed that none existed, and I cannot think that any value can possibly attach to such an unimportant character.

Yokohama (*Pryer*); Gensan (*Leech*); Kiukiang (*Pratt*). Europe.

## 27. DAPHNUSA COLLIGATA.

*Daphnusa colligata*, Walk. Cat. Lep. Het. viii. p. 238 (1856).

*Metagastes bieti*, Oberth. Etud. d'Entom. xi. p. 29, pl. i. fig. 2 (1886).

One example, without locality, in coll. Pryer.

Japan (*Pryer*); Kiukiang (*Pratt*); North and Western China.

## 28. CLANIS BILINEATA.

*Basiana bilineata*, Walk. Cat. Lep. Het. Suppl. v. p. 1857 (1866);  
Butl. Ill. Typ. Lep. Het. pt. v. p. 14, pl. lxxxii. fig. 4 (1881).

*Clanis deucalion*, Butl. l. c. fig. 5.

This is Pryer's no. 19, of which he observes in his catalogue "common about Yokohama," but of which it appears he did not keep a long series, as there were only three examples in his collection. One of these specimens (♂) agrees well with examples of *C. bilineata* from Kiukiang, whilst the other two (♀♀) are the *deucalion* of Butler. I cannot find any trustworthy character by which the last-named form can be specifically separated from *C. bilineata*.

Yokohama (*Pryer*); Kiukiang (*Pratt*); Darjeeling (*Russell* and *Liddesdale*); North India (*Mauger*); Corea (*Herz*).

## 29. ACHERONTIA ATROPOS.

*Sphinx atropos*, Linn. Syst. Nat. x. p. 490; Hübn. Sping. p. 68.

*Acherontia atropos*, Ochs. Hübn. Verz. Schmett. p. 139. 1494.

*Acherontia styx*, Westw. Cab. Orient. Ent. p. 88, pl. 42. fig. 3.

Var. *Acherontia medusa*, Butl. Trans. Zool. Soc. ix. p. 597 (1876);  
Ill. Typ. Lep. Het. pt. iii. p. 3, pl. xli. fig. 5.

Neither Chinese nor Japanese representatives are to be separated

with certainty from *A. atropos*. However, the more slender abdominal belts and transverse stripe, together with the darker "skull-mark" on thorax, of most of the specimens from China and Japan afford fairly good varietal characters; and as these seem to be pretty constant, it will perhaps be well that this form be known as var. *medusa*. I should note that among my European specimens of *A. atropos* are individuals with the "skull-mark" quite as dark as in any Japanese or Chinese example.

Yokohama (*Jonas* and *Pryer*); Oiwake, Nikko, Hakone, and Gensan (*Leech*); Nagasaki (*Lewis*); Hong Kong (*Bowring*). North India, Philippine Isles, Sierra Leone, Turkey in Asia, Africa, Europe.

### 30. PROTOPARCE CONVULVULI.

*Sphinx convolvuli*, Linn. Syst. Nat. x. p. 490; Hübn. Sphing. p. 70; Moore, Cat. Lep. Mus. E. I. Comp. i. p. 267, pl. ix. figs. 3, 3a, larva and pupa (1857).

*Protoparce orientalis*, Butl. Trans. Zool. Soc. ix. p. 609, pl. 91. figs. 16, 17, larva and pupa (1876).

A very typical series, including four specimens from Pryer's collection. Having regard to the great variability and extensive geographical range of this species, I am at a loss to understand how any one can attempt to claim specific rank for representatives of *P. convolvuli* coming from any part of the Old World.

Yokohama (*Pryer*); Fushiki, Hakodate (*Leech*). North India, Scinde?, Ceylon, Java, New Zealand, New South Wales, Port Natal, Africa, Europe, East Indies, Hong Kong.

### 31. PSEUDOSPHERIX INEXACTA.

*Macrosila inexacta*, Walk. Cat. Lep. Het. viii. p. 208 (1856).

*Pseudosphinx inexacta*, Butl. Ill. Typ. Lep. Het. pt. v. p. 16, pl. lxxxi. fig. 8 (1881).

Japanese examples agree well with Butler's figure, only the markings at anal angle of secondaries are not so distinct. This is Pryer's no. 15, and appears to occur among yew trees. I took some fine specimens at Hakodate in August. Amurland specimens are grey, without the olivaceous tint found in the type and Japanese examples.

Yokohama, Yesso (*Pryer*); Hakodate (*Leech*). North India (*Hume*); Amur; Corea (*Herz*).

### 32. ANCERYX PINASTRI.

*Sphinx pinastri*, Linn. Syst. Nat. x. p. 492; Hübn. Sphing. p. 67.

*Hyloicus pinastri*, Hübn. Verz. Schmett. p. 139. 1483.

*Anceryx pinastri*, Walk. Cat. Lep. Het. viii. p. 223 (1856).

*Hyloicus caligineus*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 393 (1877); Ill. Typ. Lep. Het. pt. ii. p. 2, pl. xxi. fig. 6 (1878).

Common in Japan, especially at Yokohama.

In his differentiation of the dark Japanese form of *A. pinastri*, Butler refers to the absence of "white markings on the body" and

“lateral black spots on the abdomen.” In my series of *A. pinastri* from Japan, I find that almost every specimen has the body paler where the white markings should be, and dark patches along the sides are distinctly visible. The dark form is most frequent in Japan; but in Pryer’s collection there is one example of *A. pinastri* which has a pale grey ground-colour clouded with darker, and with strong and sharply defined markings. This is one of three examples labelled no. 16, and noted as occurring newly emerged on stems of yew trees; the other two are referable to *A. davidis*, Oberth.

Yokohama (*Jonas* and *Pryer*); Nagahama, Tsuruga, Fushiki, Ningpo (*Leech*). North India; Europe.

### 33. ANCERYX INCRETA.

*Anceryx increta*, Walk. Cat. Lep. Het. Suppl. i. p. 36 (1864).

*Diludia increta*, Butl. Ill. Typ. Lep. Het. pt. iii. p. 4, pl. xli. fig. 7 (1879).

An extensive series showing considerable variation in tone of colour and intensity of marking.

Yokohama (*Jonas* and *Pryer*); Nagahama, Sendai, Shimonoseki, Fushiki (*Leech*); Kiukiang (*Pratt*); Shanghai; North China (*Fortune*).

### 34. ANCERYX DAVIDIS.

*Sphinx davidis*, Oberth. Etud. d’Entom. v. p. 27, pl. vii. fig. 9 (Oct. 1880).

*Sphinx streckeri*, Staud. Ent. Nachr. vi. p. 252 (1880).

*Hyloicus davidis*, Butl. Trans. Ent. Soc. 1881, p. 2.

Two fine examples in Pryer’s collection. These, as previously adverted to, are two of the three insects (no. 16) found on stems of yew at Yokohama. In one the central area of primaries between the transverse lines is pale grey like the rest of the wing, but in the other it is clouded with fuscous, and as a consequence the wing appears to have a broad fuscous transverse fascia. Neither of these specimens agree exactly with Oberthür’s figure of *A. davidis*, but there can be no doubt they are forms of that insect, as also is *Sphinx streckeri*, Staud., from Vladivostok. Amurland specimens of *A. davidis* in my collection are rather darker than my Japanese examples, and seem to fit in between these last and specimens of *S. streckeri* from the Amur.

Yokohama (*Pryer*); Tokio (*Fenton*); Nikko (*Maries*); Vladivostok; Amur.

### 35. SPHINX LIGUSTRI.

*Sphinx ligustri*, Linn. Faun. Suec. p. 287. 1087; Hübn. Sphing. pl. xiv. fig. 69.

*Sphinx constricta*, Butl. Cistula Ent. vol. iii. p. 113 (1885).

One example, taken at Hakodate by my native collector in June, does not differ sufficiently from European examples to deserve specific rank.

Hakodate; Kashiwage (*Lewis*).



## 36. THYRIS FENESTRELLA.

*Thyris fenestrella*, Scop. Ent. Carn. p. 217 (1763).

Three specimens at Gensan in June and July.

Gensan (July).

## 37. THYRIS USITATA.

*Thyris usitata*, Butl. Ann. & Mag. Nat. Hist. (5) iv. p. 367 (1879).

I took four specimens in Satsuma in May. A very fine series coll. Pryer.

Yokohama (*Jonas* and *Pryer*); Oiwake (*Pryer*); Satsuma (*Leech*).

## 38. MELITTIA BOMBYLIFORMIS.

*Sphinx bombiliformis*, Cram. Pap. Ex. iv. p. 241, pl. 400. fig. C. (1782).

*Melittia anthredoniformis*, Hübn. Verz. Schmett. p. 128 (1816).

*Trochilium phorcus*, West. Cab. Orient. Ent. p. 62, pl. 30. fig. 7.

A specimen from Japan in the National Collection.

India, N. and E.

## 39. MELITTIA EURYTION.

*Trochilium eurytion*, Westw. Cab. Or. Ent. p. 62, pl. 30. fig. 5 (1848).

*Melittia eurytion*, Walk. Cat. Lep. Het. viii. p. 70 (1856).

Two specimens at Tsuruga in June. Five examples coll. Pryer (no. 42).

Yesso, Nikko, Yokohama (*Pryer*); Tsuruga (*Leech*); North India, Silhet.

## 40. MELITTIA CHALCIFORMIS.

*Sphinx chalciformis*, Fabr. Ent. Syst. tom. iii. pt. 1, p. 382.

*Melittia indica*, Butl. Ann. & Mag. Nat. Hist. (4) xiv. p. 411 (1874).

One example in Satsuma in May.

Satsuma (*Leech*).

## 41. SPHECIA RHYNCHIOIDES.

*Sphacia rhynchioides*, Butl. Trans. Ent. Soc. 1881, p. 589.

Six specimens in coll. Pryer, Yokohama.

Pryer says that the larva "feeds on oak."

## 42. SPHECIA CONTAMINATA.

*Sphacia contaminata*, Butl. Ill. Typ. Lep. Het. pt. ii. p. 59, pl. xl. fig. 2.

Four specimens, coll. Pryer.

Yokohama (*Jonas*); Yesso (*Pryer*).

43. *SPHECIA ROMANOVI*, sp. n. (Plate XXX. fig. 1.)

♂. Primaries hyaline, brownish, thickly clothed with dark brown scales along the costa, inner margin, and median nerve; secondaries hyaline, outer half brownish, sprinkled with a few darkish scales; fringes yellowish brown. Body brownish orange, with 7 black belts. Thorax black, front portion brilliant orange; collar reddish; head and palpi bright orange marked with reddish; antennæ pectinated, lower half reddish, remainder black. Prolegs orange, marked with reddish; remaining legs dark brown, marked with orange and reddish.

♀. Like the male, but primaries more densely clothed with scales; antennæ simple.

Expanse 46 millim.

Four specimens of this fine insect in coll. Pryer, Yokohama.

44. *SPHECIA ? FIXSENI*, sp. n. (Plate XXX. fig. 2.)

Primaries partly hyaline, thickly clothed along the nerves as far as the end of cell with reddish-brown scales; apex of wing and broad outer margin deep buff; secondaries hyaline, with deep dark brown fringes. Head black; palpi yellow; a narrow yellow collar. Thorax marked on each side with yellow. Body blackish, with four orange-yellow bands and reddish-orange anal tuft. Antennæ blackish above, reddish below; all the legs yellow marked with reddish orange. Underside of primaries yellow along the nerves and towards apex; secondaries sprinkled with yellow along the outer margin.

Expanse 42 millim.

Sexes do not differ.

Five specimens in coll. Pryer from Nikko and Oiwake (June and July, 1887).

45. *SCIAPTERON CRABRONIFORME*.

*Sciapteron crabroniforme*, Hübn., Rom. Mém. sur les Lép. vol. iii. p. 323.

Corea (*Herz*).

46. *SCIAPTERON FERALE*, sp. n. (Plate XXX. fig. 3.)

Primaries brown, sprinkled with orange scales, with a purplish reflection, hyaline from base to a little beyond centre; secondaries hyaline with an opalescent reflection. Head black; palpi yellow in front; collar yellow. Thorax and body black, the latter broadly belted just beyond the middle with sulphur; legs blackish; hind tarsi yellow. Under surface of all wings iridescent.

This species is much larger and differently belted to the other two Japanese species in the genus.

Expanse 43 millim.

One male, coll. Pryer, taken in Yesso in 1882.

47. *SCIAPTERON REGALE*.

*Sciapteron regale*, Butl. Ill. Typ. Lep. Het. pt. ii. p. 60, pl. xl. fig. 3 (1878).

Satsuma in May; Nagasaki in May and June; and Shimonoseki in July. Six examples, coll. Pryer.

There is no difference between Japanese and Kiukiang specimens of this species.

Yokohama (*Jonas* and *Pryer*); Shimonoseki, Nagasaki, Satsuma (*Leech*); Kiukiang (*Pratt*).

48. *SCIAPTERON BICINCTA*.

*Ægeria bicincta*, Walk. Cat. Lep. Het. Suppl. i. p. 12 (1864).

Several specimens at Nagasaki in June, and Tsuruga and Shimonoseki in July. Two examples, coll. *Pryer*.

Nagasaki, Tsuruga, Shimonoseki (*Leech*); Yokohama, Oiwake (*Pryer*); N. China (*Fortune*).

49. *ÆGERIA HECTOR*.

*Ægeria hector*, Butl. Ill. Typ. Lep. Het. pt. ii. p. 60, pl. xl. fig. 4 (1878).

A number of specimens, coll. *Pryer*.

Yokohama (*Jonas* and *Pryer*); Oiwake (*Pryer*).

50. *ÆGERIA MONTIS*, sp. n. (Plate XXX. fig. 4.)

Primaries deeply bordered with black; the central hyaline area divided by a broad black bar just beyond the middle of the wing; secondaries hyaline, bordered with black, broadly on their outer and narrowly on their inner margins. Body black, belted with yellow near the anal extremity, and again towards the middle. Head, thorax, legs, antennæ, and under surface black; under surface of primaries dashed with yellow along the costa and inner margin.

Allied to *Æ. stelidiformis* (Freyer), but differing in the belts.

Expanse 25 millim.

A single male in coll. *Pryer*, taken at Oiwake, June 1887.

50 a. *ÆGERIA TENUIS*.

*Ægeria tenuis*, Butl. Ill. Typ. Lep. Het. pt. ii. p. 60, pl. xl. fig. 8 (1878).

Three specimens, coll. *Pryer*.

Oiwake (*Pryer*).

51. *SESIA VELOX*.

*Sesia velox*, Fixsen, Rom. Mém. sur Lép. vol. iii. p. 323.

Corea (*Herz*).

52. *BEMBECIA ODYNERIPENNIS*.

*Ægeria odyneripennis*, Walk. Cet. Lep. Het. viii. p. 42 (1856).

I took one specimen of this insect near Hakodate in August.

Nova Scotia.

53. *BEMBECIA PERNIX*, sp. n. (Plate XXX. fig. 5.)

Primaries reddish fuscous, paler and somewhat subhyaline about the disk and base of wings; secondaries hyaline, with dark outer border and fringes. Head black; palpi and collar pale yellow. Thorax and abdomen black, the latter with two narrow pale yellow rings near the anal tuft and two wider rings, one about the centre

and one towards the base of the body ; anal tuft tipped with white. Antennæ black, tipped with reddish. Underside of primaries paler than upper surface. Legs black, with faint pale markings.

I took one specimen of this species at Shimonoseki in July 1886, and there is one in coll. Pryer, Oiwake, June 1887.

54. *TINTHIA CONSTRICTA*.

*Tinthia constricta*, Butl. Ill. Typ. Lep. Het. pt. ii. p. 61, pl. xl. fig. 10 (1878).

I got one specimen at Nagasaki in June.  
Yokohama (*Jonas*) ; Nagasaki (*Leech*).

55. *TINTHIA EDITHA*.

*Tinthia editha*, Butl. Ill. Typ. Lep. Het. pt. ii. p. 61, pl. xl. fig. 9. Yokohama (*Jonas*).

56. *SYNTOMIS EREBINA*.

*Syntomis erebina*, Butl. Trans. Ent. Soc. 1881, p. 5.

“Allied to *S. phegea* of Europe.”—*Butler*.  
Tokio (*Fenton*).

57. *SYNTOMIS THELEBUS*.

*Zygæna thelebus*, Fabr. Ent. Syst. iii. 1, p. 391.

*Syntomis mandarinia*, Butl. Journ. Linn. Soc. Zool. xii. p. 349.  
? = *germana*, Feld. Wien. ent. Mon. vi. p. 37.

I got a nice series of this species in Japan and Corea, showing considerable variation in size and number of hyaline spots ; but in Pryer's collection there was a series which had evidently been made up of specimens selected to show something of the entire range of macular aberration in Japanese *S. thelebus*. At one end of this series is a specimen minus the apical spot, and the other spots on primaries are very small, whilst at the other end is an example which has exceedingly large spots, and in consequence might be said to have hyaline primaries with black transverse and longitudinal band-like markings ; between these two are all the intermediate gradations, some of which have the basal spots of all the wings thinly clothed with yellowish scales. In the series I obtained are specimens with an extra hyaline spot above or below the usual apical one, and others which have both these additional spots.

Expanse 30–40 millim.

Oiwake, Ohoyama, Fujisan, Kanosan (*Pryer*) ; Nagahama, Nagasaki, Tsuruga, Gensan (*Leech*) ; Ningpo, Corea (*Herz*) ; Kiukiang (*Pratt*) ; Amur.

58. *SYNTOMIS FORTUNEI*.

*S. fortunei*, De P'Orza, Lep. Jap. p. 38.

*S. zelleri*, Ersch.

*Syntomis annetta*, Butl. Journ. Linn. Soc., Zool. xii. p. 347 (1876); Ill. Typ. Lep. Het. pt. iii. pl. xlii. fig. 5.

I took a number of specimens in Japan and the Corea during July

1886, and my native collector obtained it at Hakodate in June and July 1887.

In expanse this species ranges from 28 to 40 millim.

Oiwake, Yokohama (*Pryer*); Tsuruga, Nagahama, Shimonoseki, Hakone, Gensan (*Leech*); Corea; Hakodate.

#### 59. PRYERIA SINICA.

*Pryeria sinica*, Moore, Ann. & Mag. Nat. Hist. (4) xx. p. 86 (1877).

A fine series, including two females, in Pryer's collection. I did not meet with this species in Japan or Corea.

Mr. Moore's description appears to apply to the male only, as the female has rather broader wings and the last abdominal segments have lateral tufts of short black and long golden-brown hairs; these last meet over the back and project beyond the anal segment. The antennæ of the female are filiform to beyond the middle, then thickened towards the pointed apex.

Pryer says that it feeds on the Masaki.

Yokohama (*Pryer*); Shanghai (type).

#### 60. BALATÆA OCTOMACULATA.

*Euchromia octomaculata*, Brem. Bull. de l'Acad. Pétersb. 1861, tom. iii.; Lep. Ost-Sib. p. 36, pl. iv. fig. 1 (1864).

*Balatæa ægerioides*, Walk. Cat. Lep. Het. Suppl. i. p. 110 (1864); Butl. Ill. Typ. Lep. Het. pt. iii. p. 4, pl. xlii. fig. 2 (1879).

I only met with this species at Gensan, where I took four males in June 1886. One example (♀) in coll. Pryer, and Fixsen also records it from Corea.

Ohoyama (*Pryer*); Gensan (*Leech*); North China.

#### 61. BINTHA GRACILIS.

*Bintha gracilis*, Walk. Cat. Lep. Het. Suppl. i. p. 127 (1864); Butl. Ill. Typ. Lep. Het. pt. iii. p. 5, pl. xlii. fig. 3 (1879).

I took two ♀ specimens at Nagahama and one at Gensan in July 1886, and there were six examples in Pryer's collection (2 ♂, 4 ♀).

Yokohama (*Jonas and Pryer*); Nagahama, Gensan (*Leech*).

#### 62. PROCRIS BUDENSIS.

*Procris budensis*, Spey. Geogr. Verbr. i. p. 466 (1862).

Jinchuen, W. Corea, Amur, Hungary, Sarepta, Armenia.

Motschulsky records this species from Japan.

#### 63. PROCRIS TRISTIS.

*Procris tristis*, Brem. Lep. Ost-Sib. p. 97, tab. viii. fig. 4 (1864).

*Procris esmeralda*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 394 (1877); Ill. Typ. Lep. Het. pt. ii. p. 4, pl. xxi. fig. 8 (1878).

I have about forty examples of this *Procris* from Japan and the Corea. The only difference I can see between *P. tristis*, Brem., and

*P. esmeralda*, Butl., is one of colour, the former being blackish grey, and the last named green of various shades. Separating the specimens in the series by their colour, eight are referable to *P. esmeralda*, and seventeen to *P. tristis*; but the remainder do not agree exactly with either in the matter of colour. Pryer in his Catalogue has "68. *Illibris?* sp. Fujisan" and "69. *Illibris tristis*, Brem., or *sinensis*, Walker." The first he says is blue, and the second green. In his collection, however, his series no. 68 comprises 7 "blue," 1 blackish-grey ♀s, and 3 blackish-grey ♂s, one of which has "blue" borders. Series no. 69 consists of 10 specimens, all males and mostly blackish grey in colour, but some have the primaries sprinkled with green or bluish-green scales. The Gensan specimens are blackish grey, sometimes with blue or green scales over disk of wing.

Yokohama (*Jonas* and *Pryer*); Ohoyama, Kanosan, Oiwake (*Pryer*); Gensan (*Leech*); Corea (*Herz*).

64. *PROCRIS FUSCA*, sp. n. (Plate XXX. fig. 6.)

All the wings bronzy brown. Antennæ brown above, paler beneath, moderately long and slightly pectinated.

Expanse 15–23 millim.

One small ♂, Gensan, July; and five examples, coll. Pryer.

65. *PROCRIS NIGRA*, sp. n. (Plate XXX. fig. 7.)

♀. All the wings fuliginous semitransparent. Antennæ simple. Head, thorax, and abdomen black; legs bluish black. Expanse 29 millim.

One example, coll. Pryer.

Ohoyama (*Pryer*).

66. *PROCRIS CHINENSIS*.

*Ino chinensis*, Feld. Wien. ent. Mon. vi. p. 31.

*Procris chinensis*, Walk. Cap. Lep. Het. Suppl. v. p. 1862.

Several examples at Nagasaki in June, and there were two specimens in Pryer's collection. It is said to have been common at Yokohama, the larva feeding on Masaki.

Nagasaki (*Leech*); Yokohama (*Pryer*), Corea; China.

67. *PROCRIS FUNERALIS*.

*Procris funeralis*, Butl. Ann. & Mag. Nat. Hist. (5) iv. p. 351 (1879).

Four examples in coll. Pryer.

Yokohama (*Pryer*).

68. *NORTHIA SINENSIS*.

*Illiberis sinensis*, Walk. Cat. Lep. Het. i. p. 281 (1854).

(Neuration of primaries, Plate XXX. fig. 20.)

One specimen at Hakodate (August) and several at Gensan (June

and July). This is Pryer's no. 77; there were only two examples in his collection, and were taken, I believe, at Yokohama.

? Yokohama (*Pryer*); Hakodate, Gensan (*Leech*); Kiukiang (*Pratt*); Foochau (April, *Leech*); Isle of Askold; N. China.

#### 69. *NORTHIA PSYCHINA*.

*Procris psychina*, Oberth. Etud. d'Entom. pt. v. p. 28, pl. vii. fig. 6.

Allied to *N. sinensis*, but the wings, which are shorter and rounder, are thickly clothed with brownish scales. There were two examples in Pryer's collection, and I took an example at Hakodate in August.

Yokohama (*Pryer*); Hakodate (*Leech*).

#### 70. *NORTHIA TENUIS*.

*Northia tenuis*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 394 (1877); Ill. Typ. Lep. Het. pt. ii. p. 4, pl. xxi. fig. 7 (1878).

(Neuration of primaries, Plate XXX. fig. 19.)

I met with several specimens in Satsuma and at Nagasaki in May 1886 and one at Hakodate in August of the same year. My native collector obtained it in the last-named place, in June and July. Eleven examples in Pryer's collection, two of which are somewhat faded and are the no. 75 of his catalogue. The larva is said to feed on spindle.

In his paper on Lepidoptera from the Corea, Dr. Fixsen notes the occurrence of this insect, but not of *N. sinensis*. On my visit to the Corea I obtained the last named, but not *N. tenuis*.

Yokohama (*Jonas* and *Pryer*); Oiwake (*Pryer*); Nagasaki, Satsuma, Hakodate (*Leech*); Hong-Kong.

#### 71. *NORTHIA DIRCE*, sp. n. (Plate XXX. fig. 8.)

♀. Hyaline, primaries clouded with black at base, third of costa, and broadly along inner margin; apex broadly, and outer margin narrowly bordered with black. Secondaries black along the costa. Antennæ, head, thorax, abdomen, and legs black.

Expanse 30 millim.

Allied to *M. tenuis*, Butl., but can at once be separated therefrom by the black apex of primaries and also by its longer and narrower wings, and different shape of discal cell.

One example taken by myself at Gensan in July. There are four specimens from N. China in the National Collection at South Kensington.

#### 72. *NORTHIA CYBELE*, sp. n. (Plate XXX. fig. 9.)

♀. Hyaline, clouded with blackish at the base, along the costa nearly to the middle, and on inner margin of primaries; there are also a few black scales along outer margin. Secondaries thickly dotted with black along the costal area. Fringes black. Antennæ slightly pectinated, brilliant metallic green; body black with metallic green reflections.

Expanse 30 millim.

Closely allied to *N. sinensis*, Walk., from which, however, it may

be separated by the colour of antennæ, greater width of thorax, narrowness of wing, and density of black scales. The neuriation at end of cell is also of a different character.

One example taken by myself at Gensan in July.

73. *ZYGÆNA NIPHONA.*

*Zygæna niphona*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 393 (1877); Ill. Typ. Lep. Het. pt. ii. p. 4, pl. xxi. fig. 9 (1878).

*Zygæna christophi*, Staud., Rom. Mém. sur Lép. p. 173 (1887).

A fine series in Pryer's collection. I took two specimens at Hakodate in August 1886.

This species may have either five or six spots on the upper surface of primaries, but below the sixth spot is always to be seen though sometimes only faintly. Confluency of the spots appears to be rather the exception than the rule. There are one or two examples in my series which agree very well with Butler's figure; but in the majority the five or six spots, although contiguous, are quite independent of each other, except perhaps as regards the upper spots of the central and outer pairs, which are often united by a thin line of their own colour.

Yokohama (*Jonas*); Oiwake (*Pryer*); Hakodate (*Leech*).

74. *AMURIA CYCLOPS.*

*Amuria cyclops*, Staud., Rom. Mém. sur Lép. p. 172, pl. 8. fig. 6 (1887).

I have no example of this species, but it seems from the description and figure to come between *Procris funeralis* and *P. fusca*. Vladivostok, Askold, Sidemi, Corea.

75. *PSYCHE VICIELLA.*

*Psyche viciella*, Schiff. S. V. p. 133.

Var. *stetiniensis*, Hering, Stett. ent. Zeit. 1846, p. 227.

One specimen of var. *stetiniensis* in coll. Pryer without locality.

76. *PSYCHE UNICOLOR.*

*Psyche unicolor*, Hufn. Berl. Mag. ii. p. 418 (1766).

*Psyche graminella*, Schiff. S. V. p. 133. 291 (1776).

Several specimens in coll. Pryer, which I believe are referable to this species.

Yokohama, Yesso (*Pryer*).

77. *PLATEUMETA AUREA.*

*Plateumeta aurea*, Butl. Trans. Ent. Soc. 1881, p. 22.

Yokohama (*Pryer*).

78. *GOVIRANA BIPARS.*

*Perina bipars*, Walk. Cat. Lep. Het. Suppl. ii. p. 406.

One specimen in coll. Pryer.

Japan, N. India.



## 79. EUMETA MINUSCULA.

*Eumeta minuscula*, Butl. Trans. Ent. Soc. 1881, p. 22.

I bred an example of this species at Nagasaki in May.  
Yokohama (Pryer); Nagasaki (Leech).

## 80. EUMETA PRYERI, Moore, MS.

Nearly allied to *E. wardii* from South India, but has a broader fore wing and less produced apex to the hind wing; it is also of a more uniformly darker cupreous brown colour than any of the other species.

Expanse  $1\frac{1}{8}$  inch.

Shanghai (Pryer). In coll. W. B. Pryer and F. Moore.

The description has been kindly communicated by Mr. Moore. There were two examples in H. Pryer's collection.

## 81. SYSTROPHA NIVOSA.

*Systropha nivosa*, Butl. Ann. & Mag. Nat. Hist. (5) iv. p. 353 (1879).

Five specimens in coll. Pryer, and one example taken by myself at Gensan in July.

Yokohama (Pryer); Gensan (Leech).

## 82. AGRISIUS JAPONICUS, sp. n. (Plate XXX. fig. 10.)

Allied to *A. guttivitta*, Walk., from India, but of an obscure greyish colour, and without the central series of spots of that species. Near the base there are twelve black spots arranged in four oblique rows, the last two extending only from the costa to the median nerve; then comes a clear space bounded by a curved series of black dots, which divide the wing into two equal portions, the outer portion has black nervules. Abdomen grey, with a dorsal and lateral series of round black spots.

Expanse 52 millim.

## 83. ŒONISTIS NIGRICOSTA, sp. n. (Plate XXX. fig. 11.)

♂. Primaries grey; basal, inner and outer marginal areas yellowish; costa with a bluish-black streak from base tapering to apex; secondaries pale buff, slightly darker towards margins, and with a short, longitudinal, black bar just above the centre of wing. Under surface yellowish; primaries clouded with fuscous towards costa and outer angle, and rather darker in discal cell; secondaries with some fuscous scales along anterior margin. Head black. Thorax orange. Abdomen dull orange.

Expanse 36 millim.

Allied to *Œ. quadra*, but the black costal streak on primaries and black bar on secondaries separate it at once from that species.

One example, coll. Pryer.

## 84. ŒONISTIS QUADRA.

*Phal.-Noctua quadra*, Linn. Syst. Nat. ed. xii. p. 840; Walk. Cat. Lep. Het. ii. p. 496.

*Æonistis dives*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 398 (1877); Ill. Typ. Lep. Het. pt. ii. pl. xxii. fig. 11 (1878).

Japanese specimens are not separable from European examples of *Æ. quadra* by any character whatever.

Yokohama (*Pryer*); Gensan (*Leech*).

85. LITHOSIA CRIBRATA.

*Lithosia cribrata*, Staud., Rom. Mém. sur Léop. p. 189, pl. x. fig. 11 (1887).

One example, coll. Pryer (no. 114).

Nikko (*Pryer*); Askold.

86. LITHOSIA MUSCERDA.

*Phalæna muscerda*, Hufn.; Walk. Cat. Lep. Het. ii. p. 504.

*Lithosia muscerda*, Ochs. Schmett. iii. p. 143. 11.

Several specimens, coll. Pryer. I took an example at Ningpo in April.

Nikko, Yesso, Oiwake (*Pryer*); Corea (*Herz*); Ningpo (*Leech*).

87. LITHOSIA GRISEOLA.

*Bombyx griseola*, Hübn. Bomb. p. 126, pl. 23. fig. 97; Walk. Cat. ii. p. 497.

*Lithosia adaucta*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 398 (1877); Ill. Typ. Lep. Het. pt. ii. p. 6, pl. xxiii. fig. 6 (1878).

*Lithosia ægrota*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 397.

*Collita ægrota*, Butl. Ill. Typ. Lep. Het. pt. iii. pl. xlii. fig. 13.

Among English representatives of *L. griseola* there are several specimens in my collection with secondaries of a "creamy stramineous" colour, whilst among the Japanese examples of *adaucta*, Butl., are one or two individuals with dark grey secondaries. As regards size, some of my English *L. griseola* measure 1 inch 7 lines, whereas there are four specimens of *L. adaucta* which do not exceed 1 inch 3 lines. I cannot separate *L. adaucta* or *L. ægrota*, Butl., from *L. griseola*, Hübn.

Nikko, Yesso, Oiwake (*Pryer*); Hakodate, Tsuruga, Gensan (*Leech*); Corea (*Herz*).

88. LITHOSIA UNITA.

*Bombyx unita*, Hübn.

Var. *arideola*, Herr.-Sch., Rom. Mém. sur Léop. p. 331.

Recorded by Dr. Fixsen as occurring in Corea.

89. LITHOSIA APRICA.

*Katha aprica*, Butl. Cist. Ent. iii. p. 115.

Superficially allied to *L. sororcula*, Hufn.

Ohoyama, Yesso (*Pryer*).

90. LITHOSIA DEBILIS.

*Lithosia debilis*, Staud., Rom. Mém. sur Léop. p. 190, pl. x. fig. 12.

Fixsen gives Corea as a locality for this insect (*op. cit.* p. 331).

91. *LITHOSIA JAPONICA*, sp. n. (Plate XXX. fig. 12.)

Smoky grey, secondaries slightly paler; primaries with a pale yellowish streak from base to middle of costa. Under surface of all wings smoky; costal streak on primaries extending to apex. Head yellowish. Thorax and abdomen fuscous.

Expanse, ♂ 26 millim., ♀ 30 millim.

Two examples, coll. Pryer.

92. *LITHOSIA IMMACULATA*.

*Lithosia immaculata*, Butl. Proc. Zool. Soc. 1880, p. 671.

I obtained two examples at Nagasaki in June, and there were two specimens in Pryer's collection.

Nagasaki (*Leech*).

93. *LITHOSIA AFFINEOLA*.

*Lithosia affineola*, Brem. Lep. Ost-Sib. p. 97, pl. viii. fig. 5 (1864).

One example, Gensan, July, and one, Hakodate, August.

Gensan, Hakodate (*Leech*).

94. *LITHOSIA COREANA*, sp. n. (Plate XXX. fig. 13.)

♂. Primaries yellowish grey, costal streak pale yellow, running through to the fringe; secondaries also yellowish grey, shading into yellow towards the inner margin. Under surface—primaries same as above, but slightly darker; secondaries yellow; costal area darker fuscous, edged with pale yellowish. Head yellow; thorax grey; abdomen and legs brownish.

Expanse 27 millim.

Allied to *L. affineola*, Brem.

I took one example at Gensan in June.

95. *LITHOSIA VETUSTA*.

*Lithosia vetusta*, Walk. Cat. Lep. Het. iii. p. 508 (1854).

One example taken by myself at Gensan in July, and another by Mr. Smith at Hakone, August.

Hakone (*Smith*); Gensan (*Leech*).

96. *LITHOSIA DEPLANA*.

*Noctua deplana*, Esp. Schmetterl. iv. p. 97, t. 93. figs. 1 ♂, 2 ♀.

*Noctua depressa*, Esp. iv. t. 93. fig. 3 ♀.

*Lithosia helveola*, Ochs. Schmett. Eur. iii. p. 133.

*Bombyx ochreola*, Hübn. Bomb. pl. xxiii. fig. 96.

*Lithosia pavescens*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 398 (1877); Ill. Typ. Lep. Het. pt. ii. p. 7, pl. xxiii. fig. 5 (1878).

*Lithosia lævis*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 393; Ill. Typ. Lep. Het. pl. xxii. fig. 12.

I obtained this species at Hakodate in August. Several examples, coll. Pryer.

Hakodate (*Leech*); Oiwake, Nikko (*Pryer*).

## 97. GHORIA COLLITOIDES.

*Ghoria collitoides*, Butl. Cist. Ent. vol. iii. p. 115.

A series in coll. Pryer.

This insect is near to *Lithosia gigantea*, Oberth., from Isle of Askold, but it has a black head, and the costal streak is not continued to apex of primaries.

Nikko, Oiwake (Pryer).

## 98. STIGMATOPHORA FLAVA.

*Setina flava*, Brem. & Grey, Schmett. Nörd. China's, p. 14 (1853); Lep. Ost-Sib. pl. viii. fig. 6.

*Setina ochracea*, Lederer, Verh. zool.-bot. Ver. Wien, 1855, p. 105, t. i. fig. 4 (Sibir.).

*Setina sinensis*, Walk. Cat. Lep. Het. ii. p. 520.

I took this species in two localities in Japan, and there were several specimens in Pryer's collection.

Hakodate, Sakata, Gensan (Leech); Ningpo, N. China, Amur.

## 99. STIGMATOPHORA MICANS.

*Setina micans*, Brem. & Grey, Schmett. N. China's, p. 9 (1853).

I took a good series at Gensan in July, and one at Fusan in June. Corea (Herz); Fusan, Gensan (Leech); N. China.

## 100. MELANÆMA VENATA.

*Melanæma venata*, Butl. A. M. N. H. (4) xx. p. 397 (1877); Ill. Typ. Lep. Het. pt. ii. p. 6, pl. xxii. fig. 5 (1878).

Appears to be fairly constant in colour and markings.

Yokohama (Jones, Pryer, and Manley); Oiwake (Pryer).

## 101. MILTOCHRISTA PULCHRA.

♀. *Miltochrista pulchra*, Butl. A. M. N. H. (4) xx. p. 396 (1877); Ill. Typ. Lep. Het. pt. ii. p. 5, pl. xxii. fig. 6.

♂. *Miltochrista mactans*, Butl. Trans. Ent. Soc. 1877, p. 340; Ill. Typ. Lep. Het. pt. v. p. 39, pl. lxxxv. fig. 13 (1881).

Butler's *M. pulchra* and his *M. mactans* are not two species, but sexes of the same species.

In the description of *M. pulchra* reference is made to four series of black dots; the first and third series are said to be well defined and arched, and the fourth composed of small linear dashes. No direct mention, however, is made of the second series; neither is there any indication of four series of black dots in the figure of this insect. On the other hand, three distinct lines of black spots are found across the discal area of the figure representing *M. mactans*, and in the description of that insect reference is made to a series of longitudinal streaks exterior to the third line. These streaks of *M. mactans* and the small linear dashes occupying a similar position in *M. pulchra*, forming the fourth series of dots in that insect, are simply modifications of a marking which in its entirety is a character sometimes found in one sex, and when interrupted or broken up an occasional feature of the

other sex of a species which, as it is the prior name, should be known as *M. pulchra*. In my series of this *Miltochrista* from Japan and the Corea are specimens showing every gradation in the length of the longitudinal streaks. The second line or series of black dots is clearly defined in all the examples of both sexes, and, with but few exceptions, this runs in a straight line from costa to inner margin.

Yesso, Yokohama (*Pryer*); Gensan (*Leech*); Ningpo, Hakodate; Corea (*Herz*).

#### 102. MILTOCHRISTA STRIATA.

*Lithosia striata*, Brem. & Grey, Beitr. zur Schmett. Nörd. China's, p. 14.

An extensive series from Japan and Corea showing considerable variation, especially in the character of the transverse marking nearest outer margin of male primaries; often this is simply a series of grey linear spots, but in some examples the spots are elongated into dashes or streaks, and in other specimens again these are confluent, and form a broad transverse grey band slightly interrupted here and there by rose-coloured streaks. In some female examples there are but the faintest traces of rose-coloured streaks, and the grey spots and streaks are very indistinct.

Yokohama, Oiwake (*Pryer*); Gensan (*Leech*); Hakodate; Ningpo, North China.

#### 103. MILTOCHRISTA MINIATA.

*Geometra miniata*, Forst. Nov. Spec. Ins. p. 75 (1771).

*Bombyx rosea*, Fabr. S. E. p. 587 (1775); Esp. 77, 1-3.

*Noctua rubicunda*, Schiff. S. V. p. 68 (1776); Hübn. Bombyces, pl. xxvi. fig. 111.

*Miltochrista rosaria*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 397 (1877); Ill. Typ. Lep. Het. ii. p. 6, pl. xxii. fig. 8 (1878).

A specimen in Satsuma in May, one at Nagasaki in June, another at Nagahama in July, and two at Gensan in the same month. There was a long series in coll. Pryer.

Comparing these specimens with others from Europe, I cannot find any trustworthy point of difference between them.

Yokohama (*Jonas* and *Pryer*); Yesso, Oiwake (*Pryer*); Satsuma, Nagasaki, Nagahama, Gensan (*Leech*); Hakone (*Smith*).

#### 104. MILTOCHRISTA INSCRIPTA.

♀. *Sesapa inscripta*, Walk. Cat. Lep. Het. ii. p. 547 (1854).

*Miltochrista inscripta*, Butl. Ill. Typ. Lep. Het. pt. iii. p. 7, pl. xlii. fig. 11 (1879).

One example from Gensan. It is also recorded from Corea by Dr. Fixsen in the paper previously referred to.

Gensan (*Native Coll.*); Foochau (*Leech*).

#### 105. MILTOCHRISTA RHODOPHILA.

*Barsine rhodophila*, Walk. Cat. Lep. Het. Suppl. i. p. 254 (1864).

*Miltochrista rhodophila*, Butl. Ill. Typ. Lep. Het. pt. iii. p. 8, pl. xlii. fig. 12 (1879).

*Miltochrista torrens*, Butl. Ann. & Mag. Nat. Hist. (5) iv. p. 353.

I took specimens at Gensan (July), Fusan (June), and Shimonoseki (July).

Yokohama, Yesso (*Pryer*); Fusan, Gensan, Shimonoseki (*Leech*); Shanghai, Mongolia.

#### 106. MILTOCHRISTA ABERRANS.

*Miltochrista aberrans*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 397 (1877); Ill. Typ. Lep. Het. pt. ii. p. 5, pl. xxii. fig. 7.

*Miltochrista bivittata*, Butl. Cist. Ent. vol. iii. p. 116.

Though superficially resembling *M. miniata*, this species is at once separated therefrom by the very different angulation of the blackish discal line.

Yokohama (*Jonas* and *Pryer*).

#### 107. MILTOCHRISTA CALAMINA.

*Miltochrista calamina*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 396 (1877); Ill. Typ. Lep. Het. pt. ii. p. 6, pl. xxii. fig. 10 (1878).

Taken at Nagasaki in June, Nagahama and Fushiki in July, and Hakodate in August. Several specimens, coll. *Pryer*.

In colour this species is very similar to the yellow form of *M. miniata*, which I believe is not uncommon in Germany and some other parts of Europe, but the angulation of the discal line is different. With the exception of the discal spot, the female is almost without marking.

Yokohama (*Jonas* and *Pryer*); Oiwake (*Pryer*); Nagahama, Fushiki, Hakodate, Nagasaki (*Leech*).

#### 108. MILTOCHRISTA BUTLERI, sp. n. (Plate XXX. fig. 14.)

♂. Primaries buff-yellow, with a black discal spot and two series of black dots arranged in irregular lines, one towards the base and the other before outer margin. Secondaries pale yellowish grey. Head and thorax buff-yellow, abdomen pale brown. Under surface: central area of primaries pale fuscous bordered with darker; apices and outer margin buff-yellow; secondaries pale yellow. ♀ similar to the ♂, but the markings of underside less distinct.

Expanse, ♂ 24 millim., ♀ 26 millim.

I took a specimen of each sex at Nagasaki in June, and there was a male example in *Pryer's* collection, but this was not localized.

Nagasaki (*Leech*); Japan (*Pryer*).

#### 109. MILTOCHRISTA PALLIDA.

*Calligenia pallida*, Brem. Lep. Ost-Sib. p. 97, pl. viii. fig. 7.

I took examples at Fusan and Gensan in July, also at Ningpo and Foochau in April.

Fusan and Gensan (*Leech*); Corea (*Herz*); Ningpo, Foochau (*Leech*).

## 110. MILTOCHRISTA ARTAXIDIA.

*Miltochrista artaxidia*, Butl. Trans. Ent. Soc. 1881, p. 8.

*Nudaria nubilosa*, Staud., Rom. Mém. sur Lép. p. 186, pl. x. fig. 10 (1887).

I took two specimens at Gensan in July. *N. nubilosa*, Staud., from Vladivostok, is exactly identical with *M. artaxidia*, Butl., with which Dr. Staudinger was evidently unacquainted, or he would have at least referred to it.

Tokio (*Fenton*); Ohoyama (*Pryer*); Gensan (*Leech*); Vladivostok.

## 111. BIZONE HAMATA.

*Bizone hamata*, Walk. Cat. Lep. Het. ii. p. 549 (1854).

*Bizone puella*, Drury, teste Fixsen in Rom. Mém. sur Lép. p. 332.

Several specimens in coll. Pryer. There appears to be considerable variation, one of the examples has orange transverse lines and two others have the secondaries white instead of pink.

*B. puella*, Drury, is recorded from Nepaul and Java.

Yokohama, Oiwake (*Pryer*); Satsuma (*Leech*); Kiukiang (*Pratt*); North China.

## 112. CYANE DECIPIENS.

*Cyane decipiens*, Butl. Ann. & Mag. Nat. Hist. ser 5, vol. iv. p. 352 (1879).

Japan (*Pryer*).

## 113. PAIDA OBTRITA.

*Paida obtrita*, Staud., Rom. Mém. sur Lép. iii. p. 183, pl. x. fig. 8. Nine specimens, coll. Pryer (no. 99).

Japanese examples are darker than the Amur specimens figured by Staudinger, and both appear to be referable to *P. obtusa*, H.-S.

Yokohama (*Pryer*); Amur (*Herz*).

## 114. EUGOA? OBSCURA, sp. n. (Plate XXX. fig. 15.)

Primaries greyish white, with four transverse waved brownish lines, a brownish cloud in central area and a smaller one at base of inner margin; the basal line has its lower half bordered with blackish, and this is crossed with a longitudinal blackish streak, thus giving a T-shaped mark; a black dot precedes the submarginal line. Secondaries fuscous. Head, thorax, and abdomen greyish. Under surface: primaries fuscous, secondaries paler.

Expanse 20 millim.

One example, coll. Pryer.

## 115. EUGOA GRISEA.

*Eugoa grisea*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 399 (1877); Ill. Typ. Lep. Het. pt. ii. p. 8, pl. xxiii. fig. 1 (1878).

I took a specimen at Gensan in July.

Yokohama (*Jonas, Manley*); Gensan (*Leech*).

116. *ÆMENE MINUTA.*

*Æmene minuta*, Butl. Trans. Ent. Soc. 1881, p. 595.

Pryer says "found on fig-tree leaves": there were four examples in his collection, but these were without locality labels.

Yokohama (*Pryer*).

117. *ÆMENE FASCIATA.*

*Æmene fasciata*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 399 (1877); Ill. Typ. Lep. Het. pt. ii. p. 7, pl. xxii. fig. 9 (1878).

I took an example in August at Hakodate.

Yokohama (*Jonas*); Nikko, Oiwake (*Pryer*); Hakodate (*Leech*).

118. *ÆMENE TÆNIATA.*

*Æmene tæniata*, Fixsen, Rom. Mém. sur Lép. iii. p. 307, pl. xv. fig. 6.

Corea (*Herz*).

119. *SICCIA MACULATA*, sp. n. (Plate XXX. fig. 16.)

Primaries pale olive-brown, with nine black spots, three of which are placed at regular intervals on the costa, three on the outer border, two towards inner margin, and one in the central area; secondaries greyish brown, semitransparent towards base. Head, thorax, abdomen, and legs olivaceous. Under surface—primaries fuscous grey, with the spots of upper surface faintly reproduced; secondaries pale grey, with a fuscous spot on central area.

Expanse 20 millim.

Allied to but easily distinguished from *S. caffra*, Wallengren.

One example taken by myself in Satsuma in May.

Satsuma, Japan (*Leech*).

120. *NUDARIA SENEX.*

*Bombyx senex*, Hübn. Bomb. pl. 55. figs. 236-7.

?=*Nudaria muscula*, Staud., Rom. Mém. s. Lép. iii. p. 185, pl. x. fig. 9 (1887).

Four ♂ and three ♀ specimens in coll. Pryer. I cannot see any differences between Japanese and British examples of *N. senex*.

Oiwake (*Pryer*).

121. *NUDARIA MUNDANA.*

*Tortrix mundana*, Linn. F. S. p. 349.

*Bombyx nuda*, Hübn. Bomb. pl. 17. figs. 63, 64; *hemerchia*, Hübn. l. c. fig. 65.

Two examples, coll. Pryer.

Gifu, Yesso (*Pryer*).

122. *EARIAS CHROMATARIA.*

*Earias? chromataria*, Walk. Cat. Lep. Het. xxvii. p. 204 (1863).

*Earias limbana*, Snellen, Tijdschr. Ent. xxii. p. 97, pl. viii. fig. 2.

A specimen I took at Gensan has the reddish discal markings very



inconspicuous, but agrees in all other respects with examples from Yokohama in Pryer's collection. This is Snellen's *limbaria*.

Yokohama (*Pryer*); Gensan (*Leech*); N. Ceylon, India; Shanghai.

123. *EARIAS ROSEIFERA*.

*Earias roseifera*, Butl. Trans. Ent. Soc. 1881, p. 18.

Several specimens, coll. Pryer (nos. 62 and 63).

Varies in the intensity of pinkish suffusion on disk of primaries; this, in one example, occupies the whole central area, in other specimens it is represented by a mere spot, whilst in others again it is quite absent.

Tokio (*Fenton*); Yokohama, Gifu (*Pryer*).

124. *EARIAS PUDICANA*.

*Earias pudicana*, Staud., Rom. Mém. Lép. iii. p. 174, pl. viii. fig. 10 (1887).

One example at Tsuruga in July. Two specimens, coll. Pryer.

The fringes of primaries are reddish brown, and the basal half of costal border is sometimes pinkish, but in other respects this species is very suggestive of *E. chlorana*, Linn.

Yokohama (*Pryer*); Tsuruga, Ningpo (*Leech*); Amur.

125. *CHIONOMERA ARGENTEA*.

*Chionomera argentea*, Butl. Trans. Ent. Soc. 1881, p. 18.

"Nearly allied to *C. superba*."

One specimen from the isle of Kiushiu (*Nat. Coll.*).

Yokohama (*Pryer*); Tokio (*Fenton*); Fusi-yama (*Maries*).

126. *GELASTOCERA EXUSTA*.

*Gelastocera exusta*, Butl. Ill. Typ. Lep. Het. pt. ii. p. 13, pl. xxiv. fig. 2 (1878).

*Earias ochroleucana*, Staud., Rom. Mém. Lép. iii. p. 176, pl. viii. fig. 11 (1887).

Three examples at Gensan, June and July. There were five specimens in Pryer's collection, two of which were labelled no. 746 (*Miana?* sp.); these would be from Yokohama, and there is one from Oiwake, but the others are not localized.

The Gensan specimens are much paler than those from Japan, but have more pink in the colour of primaries than the Amur example figured by Staudinger; the characters of marking are identical in all the specimens, and the difference is one of tint only.

Oiwake, Yokohama (*Pryer*); Hakodate (*Whitely*); Gensan (*Leech*); Amur.

127. *HYLOPHILA PRASINANA*.

*Tortrix prasinana*, Linn. Faun. Sv. p. 342 (1761).

*Hylophila sylpha*, Butl. Ill. Typ. Lep. Het. pt. iii. p. 10, pl. xliii. fig. 10 (1879).

In European, even British, examples of *H. prasinana* it is no un-

common thing for the costa and inner margin to be sulphur-yellow, and specimens with red-spotted white fringes are of not unfrequent occurrence to the collector of British Lepidoptera; whilst among my series of Japanese *prasinana* are specimens with the costa, inner margin, and fringes as rosy as in any European example I have yet seen. *H. sylpha*, Butl., cannot stand except perhaps as a varietal name.

Yokohama (*Jonas* and *Pryer*); Oiwake (*Pryer*).

128. SARROTHRIPA UNDULANA.

*Tortrix undulana*, Hübn. Tortr. fig. 7 (1796).

*Penthina revayana*, Tr. Schmetterl. viii. p. 22.

Var. *russiana*, Dup. Cat. p. 284.

Four specimens in Pryer's collection, all of the ashy-grey form known as *russiana*, Dup.

Yokohama, Oiwake (*Pryer*).

129. NOLA MICROPHASMA.

*Nola microphasma*, Butl. Cist. Ent. vol. iii. p. 117.

Two specimens, coll. Pryer (no. 86).

Yokohama (*Pryer*).

130. NOLA MINUTALIS, sp. n. (Plate XXX. fig. 17.)

Primaries white, with curved basal, angulated central and sub-marginal brownish-grey lines; the outer margin is pale chocolate-brown, and is traversed throughout its length by a white wavy line. Secondaries pale greyish brown with a faint discal spot. Head, thorax, and abdomen white, the latter tinged with brownish. Under surface of primaries fuscous; secondaries whitish, with distinct black discal spot.

Expanse 15 millim.

Closely allied to *P. chlamitulalis*, Hübn., but in that species there is no white wavy line in hind marginal border.

An example of each sex in Pryer's collection; the female is not quite equal in condition to the male; but there does not appear to be any difference in the markings.

131. NOLA CANDIDA.

*Nola candida*, Butl. Ill. Typ. Lep. Het. pt. iii. p. 9, pl. xliii. fig. 3 (1879).

A good series, coll. Pryer.

Yokohama (*Jonas*); Fujisan (*Pryer*); Ningpo in April (*Leech*).

132. NOLA CENTONALIS.

*Pyralis centonalis*, Hübn. Pyral. pl. 3. fig. 15.

*Glaphyra atomosa*, Brem. Bull. de l'Acad. Pétersb. 1861, tom. iii.; Lep. Ost-Sib. p. 55, tab. v. fig. 16.

A number of specimens, several of which were taken by myself in the Corea in June, and one at Hakodate in August; others are from coll. Pryer. With the exception of the Hakodate example,

which has the central area of primaries dark, all are of the pale form with ochreous-brown lines, not infrequent among English specimens of this species.

Fujisan, Oiwake (*Pryer*); Hakodate, Fusan, Gensan (*Leech*).

133. *NOLA ALBULALIS*.

*Pyralis albulalis*, Hübn. Pyral. pl. 3. fig. 14.

One example in Satsuma in May and one at Gensan in June. There was but one specimen in Pryer's collection; this is from Oiwake, and has more brown on the primaries than either of the other two specimens.

A form of this species occurring in Corea has been named *mandschurica*, Oberth. (Rom. Mém. sur Lép. iii. p. 327).

Oiwake (*Pryer*); Satsuma, Gensan (*Leech*).

134. *NOLA CONFUSALIS*.

*Roeselia confusalis*, Herr.-Schäff. ii. p. 164.

*Roeselia cristulalis*, Dup. Hist. Nat. Lep. viii. p. 227. 6, 7.

This is no. 94 of Pryer's catalogue, and there were two examples in his collection. These are typical *N. confusalis*.

Yokohama, Oiwake (*Pryer*).

135. *NOLA COSTIMACULA*.

*Nola costimacula*, Staud., Rom. Mém. Lép. iii. p. 182, pl. x. fig. 6 (1887).

One example in Pryer's collection without locality.

Japan, Amur.

136. *NOLA FUMOSA*.

*Nola fumosa*, Butl. Ill. Typ. Lep. Het. pt. iii. p. 9, pl. xliii. fig. 2 (1879).

*Nola strigulosa*, Staud., Rom. Mém. Lép. iii. p. 180, pl. x. fig. 4 (1887).

After seeing Pryer's series of *N. fumosa*, I have no doubt that *strigulosa*, Staud., is referable to this species, as in the series referred to there are examples which agree exactly with the figure of *strigulosa*, others with the type of *fumosa*, Butl., in the National Collection, whilst other examples link the two together.

Yokohama (*Jonas* and *Pryer*); Fushiki (*Leech*); Corea, Amur.

137. *NOLA GIGAS*.

*Nola gigas*, Butl. Ann. & Mag. Nat. Hist. (5) xiii. p. 274.

Four examples, coll. Pryer.

Yesso (*Pryer*).

138. *NOLA TRIANGULALIS*, sp. n. (Plate XXXI. fig. 12.)

♂. Primaries ashy grey, brownish along the costa; the centre of the wing is occupied by a triangular brownish patch, the outer portion of which is traversed by a serrated blackish line and bounded by

another blackish line elbowed in the middle; submarginal line blackish and much indented. Secondaries fuscous-grey. Head chocolate; thorax and abdomen dark brown; tegulæ brown, tipped with white. Under surface—primaries chocolate; secondaries whitish with a black discal spot and thickly sprinkled with blackish scales.

Expanse 28 millim.

Allied to *N. gigas*, Butl., but may at once be distinguished therefrom by the different character of marking.

One specimen, which I took in Satsuma in May.

#### 139. NOLA LEODURA.

*Nola leodura*, Staud., Rom. Mém. Lép. iii. p. 178, pl. x. fig. 2 (1887).

Five specimens in Pryer's collection agreeing exactly with Staudinger's figure of this species.

Oiwake (*Pryer*); Amur.

#### 140. NOLA MANDSCHURIANA.

*Erastria mandschuriana*, Oberth. Etud. d'Entom. v. p. 83, pl. ii. fig. 9 (1880).

Two specimens, coll. Pryer. These are identical with an example in the National Collection at South Kensington, labelled *Mimærastria mandschuriana*.

Japan (*Pryer*); isle of Askold.

#### 141. HETEROGENEA UNCULA.

*Heterogenea uncula*, Staud., Rom. Mém. Lép. iii. p. 197, pl. xi. fig. 9 (1887).

Five examples, coll. Pryer (nos. 66, 67).

Yokohama, Oiwake, Yesso (*Pryer*); Amur.

#### 142. HETEROGENEA FULGENS, sp. n. (Plate XXX. fig. 18.)

♂. Densely scaled, giving the insect a very silky appearance. Pale straw-colour, whitish towards costa, with some irregular pale sienna-coloured markings on disk, and a row of minute black dots on outer margin of primaries; fringes of all the wings shining. Under surface—primaries pale orange, narrowly bordered with silvery white; central area of secondaries whitish, with a greenish reflection; margins and fringes silvery white.

Expanse, ♂ 20 millim., ♀ 22 millim.

Two specimens (♀) taken by myself at Gensan in July, and a ♂ taken by my native collector at Ningpo also in July.

Gensan (*Leech*); Ningpo.

#### 143. PHRIXOLEPIA SERICEA.

*Phrixolepia sericea*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 476 (1877); Ill. Typ. Lep. Het. pt. iii. p. 11, pl. xliii. fig. 6 (1879).

*Limacodes castaneus*, Oberth. Etud. d'Entom. v. p. 41, pl. i. fig. 11 (1880).

One example at Nagasaki in June. Several specimens, coll. Pryer.

The species seems to be fairly constant in colour and marking; but ranges from 22 millim. to 30 millim. in expanse.

Yokohama (*Jonas and Pryer*); Oiwake, Yesso (*Pryer*); Nagasaki (*Leech*).

144. MICROLEON LONGIPALPIS.

*Microleon longipalpis*, Butl. Cist. Ent. vol. iii. p. 121 (1885).

Three specimens, Satsuma, May, and several coll. Pryer. This is Pryer's no. 60, and was considered by him to differ only from *Phrixolepia sericea*, Butl., in being smaller; it is, however, not closely allied to that species, and the only point of resemblance between the two insects is a somewhat similar coloration.

Yokohama (*Pryer*); Satsuma, Fusan (*Leech*).

145. APHENDALA SERICEA.

*Aphendala sericea*, Butl. Trans. Ent. Soc. 1881, p. 595.

Hakodate (*Andrews*); Tokio (*Fenton*).

146. PARASA HILARIS.

*Limacodes hilaris*, Westw. Cab. Orient. Ent. p. 50, pl. xxiv. fig. 3 (1848).

*Parasa sinica*, Moore, Ann. & Mag. Nat. Hist. (4) xx. p. 93 (1877).

*Heterogenea hilarula*, Staud., Rom. Mém. Lép. iii. p. 197 (1887).

*Heterogenea hilarata*, Staud. l. c. p. 198.

One female example, Hakodate, August, and two males and one female, Gensan, July. Several specimens, coll. Pryer.

Yokohama (*Pryer*); Hakodate, Gensan (*Leech*); Corea.

147. PARASA CONSOCIA.

*Parasa consocia*, Walk. Cat. Lep. Het. Suppl. ii. p. 484 (1865).

*Heterogenea princeps*, Staud., Rom. Mém. Lép. iii. p. 199 (1887).

*Neaera princeps*, Staud. l. c. pl. xv. fig. 7.

Two specimens at Gensan in July. These agree with figure of *N. princeps*, Staud., from Amur.

Gensan (*Leech*); Corea, Ussuri.

148. MONEMA FLAVESCENS.

*Monema flavescens*, Walk. Cat. Lep. Het. v. p. 1112 (1855); Butl. Ill. Typ. Lep. Het. pt. ii. p. 14, pl. xxv. fig. 5 (1878).

My native collector took a fine series of this species at Hakodate in June and July, and I took three specimens at Gensan in July. Four specimens, coll. Pryer.

Pryer, in his catalogue, says of this species:—"Feeds on the Celtis and elm; forms an oval, very hard and smooth cocoon, mottled with white and brown, very much resembling a bird's egg; the larva spins up in the autumn, but does not change to pupa until the spring" (p. 41).

Yokohama (*Jonas and Pryer*); Gensan (*Leech*); Hakodate, N. China, Corea, Amur.

## 149. MIRESA INORNATA.

- ♀. *Miresa inornata*, Walk. Cat. Lep. Het. v. p. 1125 (1855);  
 ♂, Cist. Ent. vol. iii. p. 120.  
*Heterogenea flavidorsalis*, Staud., Rom. Mém. Lép. iii. p. 195,  
 pl. xi. fig. 7 (1887).  
*Heterogenea flavidorsalis*, var. *fuscicostalis*, Fixsen, *op. cit.* p. 337,  
 pl. xv. fig. 10.

Two examples, coll. Pryer, and one taken by native collector at Hakodate in June or July. The two in Pryer's collection are labelled "56. *Limacodes?* sp.," as also was another specimen with them, but this last is not of the same species. Pryer says that the larva feeds on pear.

Fixsen records variety *fuscicostalis* from Corea.

Yokohama, Yamato (*Pryer*); Corea, Bengal.

## 150. MIRESA CONJUNCTA.

- Limacodes? conjuncta*, Walk. Cat. Lep. Het. v. p. 1150 (1855).  
*Heterogenea conjuncta*, Walk., Rom. Mém. Lép. iii. p. 338,  
 pl. xv. fig. 9 (1887).

Two specimens, Gensan, July.

This insect is very closely allied to *M. dentatus*, Oberth.

North China; Gensan (*Leech*).

## 151. ANZABE SINENSIS.

*Anzabe sinensis*, Walk. Cat. Lep. Het. v. p. 1093 (1855).

One specimen at Gensan in July.

Gensan; Hongkong.

## 152. SCOPELODES URSINA.

- Scopelodes ursina*, Butl. Ill. Typ. Lep. Het. vi. p. 3, pl. ci. figs.  
 7 & 8 (1886).

I took a male example of this species at Tsuruga in July.

Darjeeling, Silhet; Tsuruga.

## 153. SETORA SINENSIS.

*Tadema sinensis*, Walk. Cat. Lep. Het. vii. p. 1759 (1856).

Pryer says that the larva feeds on pear.

Yokohama, Yamato (*Pryer*).

## 154. EPICOPEIA SIMULANS, sp. n. (Plate XXXI. fig. 1.)

Both sexes: all the wings smoky black; secondaries with a broad short tail, about the centre of the outer margin is a crimson spot; there are also four crimson spots between the tail and anal angle; head, thorax, and abdomen black, the latter with a crimson streak along each side; legs black, with the exception of femora of anterior pair, which are crimson; under surface as above, but primaries paler towards the outer margins.

Expanse, ♂ ♀ 78 millim.

Hakodate (*Nat. Coll.*, June & July 1887); Hakone (*Pryer*).

Allied to *Epicopeia mencia*, Moore, P. Z. S. 1874, p. 578, pl. lxxvii. fig. 8, from which it differs in having only one row of crimson spots on secondaries, no crimson marks on thorax, and less crimson on the abdomen; it has also differently shaped secondaries, shorter tails, and is a much smaller insect.

155. *ELCYSMA TRANSLUCIDA*.

*Eleysma translucida*, Butl. Trans. Ent. Soc. 1881, p. 4.

Three examples coll. Pryer, and one taken by a native collector at Gensan in August.

*Chalcosia caudata*, Brem., is very closely allied, but appears to have shorter tails and the neuration is somewhat different.

Yokohama, Yoshino (Pryer); Gensan (*Nat. Coll.*), Aug.

156. *PSYCHOSTROPHIA MELANARGIA*.

*Psychostrophia melanargia*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 401 (1877); Ill. Typ. Lep. Het. pt. ii. p. 9, pl. xxiii. fig. 7 (1878).

I took examples in July at Tsuruga. Pryer says that the species is an active day-flier.

Yokohama (Jonas); Nikko, Fujisan (Pryer); Tsuruga (Leech).

157. *PTERODECTA GLORIOSA*.

*Pterodecta gloriosa*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 399 (1877); Ill. Typ. Lep. Het. pt. ii. p. 8, pl. xxiii. fig. 4 (1878).

Of frequent occurrence in mountainous districts in July.

Bremer's figure of *Callidula felderi* (Lep. Ost-Sib. tab. iv. fig. 3) agrees well with my Japanese specimens of *P. gloriosa*, but in the description of his insect Bremer says that it has an ochreous yellow fascia, whereas in *P. gloriosa* the fascia is, according to Butler, "brilliant scarlet." It may be that Bremer's type was a faded specimen.

Yokohama (Jonas); Fujisan, Yamato (Pryer); Nagahama, Tsuruga (Leech).

158. *SCHISTOMITRA FUNERALIS*.

*Schistomitra funeralis*, Butl. Trans. Ent. Soc. 1881, p. 4.

A nice series in Pryer's collection. The broad cream-coloured band on disk of primaries is sometimes completely divided by the black ground-colour into two spots, the smaller one nearest the costa being nearly round, and the larger one cuneiform. The initial spot of submarginal series is sometimes absent altogether.

Fusiyama, Nikko (Maries); Fujisan (Pryer).

159. *LAURION REMOTA*.

*Eterusia remota*, Walk. Cat. Lep. Het. ii. p. 431 (1854).

*Laurion remota*, Butl. Ill. Typ. Lep. Het. pt. ii. p. 9, pl. xxiii. fig. 10 (1878).

A long series, most of the specimens taken by myself at Gensan, July 1884. Mr. Butler gives the measurement of this species as

2 in. 2 lines, this is about equal to 55 mm. I find the males range from 48 mm. to 59 mm. in expanse; females from 56 mm. to 65 mm.: average 57 mm.

Yokohama (*Jonas* and *Pryer*); Tokio, Nikko (*Pryer* Fushiki, Tsuruga, Gensan (*Leech*); Corea (*Herz*).

#### 160. PIDORUS GLAUCOPIS.

*Callimorpha? glaucopis*, Drury, Illustr. Exot. Entom. ii. p. 14, pl. 6. fig. 4 (1837).

*Pidorus atratus*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 401 (1877); Ill. Typ. Lep. Het. pt. ii. p. 9, pl. xxiii. fig. 9 (1878).

Several specimens, coll. Pryer. Larva said to feed on "the Uria."

This species is extremely variable in size, and the width and outline of white fascia is also subject to much variation.

Hakodate, Yokohama (*Whitely* and *Jonas*); Tsuruga, Shimonoseki (*Leech*); Hakone, Gensan.

#### 161. MIMUSEMIA PERSIMILIS.

*Mimusemia persimilis*, Butl. Ann. & Mag. Nat. Hist. (4) xv. p. 397 (1875); Ill. Typ. Lep. Het. pt. ii. p. 3, pl. xxii. fig. 2.

Several examples, coll. Pryer.

Hakodate (*Whitely*); Yesso, Oiwake (*Pryer*); Gensan (*Leech*); Corea (*Herz*).

#### 162. ETERUSIA EUCHROMOIDES.

*Eterusia euchromoides*, Walk. Cat. Lep. Het. Supp. i. p. 120 (1864).

Three specimens of this beautiful insect taken at Gensan by my native collector in July 1887.

N. China (*Fortune*); Gensan (*Nat. Coll.*).

#### 163. EUSEMIA JAPANA.

*Chelonomorpha japana*, Motsch. Et. Ent. p. 30 (1860).

*Eusemia villicoides*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 141, pl. xiii. fig. 2 (1875).

This insect was common at Hakodate in June and July. It seems to be pretty constant in markings.

Nikko, Yesso, Nambu (*Pryer*); Hakodate (*Andrews*).

#### 164. SEUDYRA NOCTUINA.

*Seudyra noctuina*, Butl. Ent. Mo. Mag. xiv. p. 206 (1878); Ill. Typ. Lep. Het. pt. ii. p. 3, pl. xxii. fig. 1.

Mr. Pryer in his catalogue says that this species "has a habit of buzzing about sugar." He seems to have considered it a Noctuid, and placed it among the Calpidæ.

Nikko, Oiwake, Yesso (*Pryer*); Hakodate (*Whitely* and *Leech*).

#### 165. SEUDYRA SUBFLAVA.

*Seudyra subflava*, Moore, Ann. & Mag. Nat. Hist. (4) xx. p. 85.

I have a good series from Japan and one specimen from Corea. This last is somewhat darker in coloration.



Yokohama (*Pryer* and *Manley*); Gensan (*Leech*); Kiukiang (*Pratt*); Chekiang.

166. *SEUDYRA VENUSTA*, sp. n. (Plate XXXI. fig. 2.)

♂. Primaries whitish, much sprinkled with dark grey scales; reniform and orbicular spots dark grey; a broad parti-coloured patch along the inner margin, commencing near the base, this patch is deep chestnut-brown followed by a transverse band of grey bordered internally with white, and one of dark brown divided by a white line preceding a band of leaden grey edged with chestnut-brown. A large dark chestnut patch occupies the apical third, this has a round dark grey spot bordered externally with bluish grey nearly in its centre, and is bounded internally by a greyish dark-edged band, which starting from the costa curves gently towards the outer margin, then turning inwards until it reaches the internal patch through which it passes to the inner margin in a slightly oblique direction. Fringes grey, chequered with chocolate-brown towards apex. Secondaries yellow, with a well-defined black discal spot and a broad black marginal band indented on its internal edge and interrupted before the anal angle, where the isolated portion forms a large round spot. Fringes pale grey. Thorax grey. Abdomen slightly darker than secondaries, with some dark grey dorsal marks. Under surface of primaries whitish, broadly dashed with black along the inner margin, the white interrupting at anal angle; submarginal band black, its internal edge undulating and well defined, the discal spots of upper surface reproduced in black; secondaries yellow, fuscous along outer margin; blackish discal and anal spots. Fringes of all the wings pale grey.

Expanse 42 millim.

Allied to *S. longipennis*, Walk., from N. India, from which species it may be distinguished by its smaller size, whitish ground-colour of primaries, and different ornamentation of secondaries.

167. *VITHORA STRATONICE*.

*Phalæna stratonice*, Cram. Pap. Exot. iv. p. 234, pl. 398. fig. K.

*Cystidia stratonice*, Hübn. Verz. Schmett. p. 174 (1800).

*Vithora agrionides*, Butl. Ann. & Mag. Nat. Hist. (4) xv. p. 137 (1875); Ill. Typ. Lep. Het. pt. ii. p. 3, pl. xxii. fig. 3 (1878).

I met with this species at several places in Japan during the months of May, June, and July, also at Gensan in June.

There is some variation in the character of the black markings.

Hakodate (*Whitely*); Yokohama (*Jonas* and *Pryer*); Nagahama, Nagasaki, Satsuma, Gensan (*Leech*).

168. *GAMPOLA NOCTIS*.

*Gampola noctis*, Butl. Trans. Ent. Soc. 1881, p. 8.

Tokio (*Fenton*).

## 169. DEIOPEIA PULCHELLA, Linn.

Four specimens in coll. Pryer. I did not meet with this species in Japan or the Corea.

Yokohama (*Pryer*).

## 170. SINNA EXTREMA.

*Sinna extrema*, Walk. Cat. Lep. Het. ii. p. 573.

*Teinopyga reticularis*, Feld. Reise Nov. Lep. iv. pl. cvi. fig. 18.

*Sinna fentoni*, Butl. Trans. Ent. Soc. 1881, p. 8.

*Sinna clara*, Butl. *l. c.*

Five specimens at Hakodate in August, and several examples in Pryer's collection.

The entire series, comprising some fourteen specimens, exhibit a considerable degree of variation. There are forms identical with *clara* and *fentoni*, Butl., and others differing from those named forms and also from the type. There cannot be the least doubt but that all these forms are referable to one variable species.

Shanghai, N. China; Hakodate (*Leech*).

## 171. CAMPTOLOMA INTERIORATA.

*Numenes interiorata*, Walk. Cat. Lep. Het. Suppl. i. p. 290 (1864).

Pryer says the larva is gregarious, "living under a tough silk web made on the bark of chestnut-trees, on the leaves of which it feeds" (Cat. Jap. Lep. p. 47).

Yokohama (*Pryer*); Shanghai.

## 172. NEMEOPHILA PLANTAGINIS.

*Phalæna-Bombyx plantaginis*, Linn. Syst. Nat. xii. 2, p. 820, n. 42.

*Nemeophila macromera*, Butl. Trans. Ent. Soc. 1881, p. 5.

Var. *leucomera*, Butl. *l. c.* = *hospita*, Schiff.

A series of nine specimens (7 ♂, 2 ♀). Four of the males are the form *hospita*, Schiff., and type and variety agree with Amur specimens. Var. *melanomera*, Butl., corresponds with var. *matronalis*, Freyer, but I did not take this form in Japan or Corea.

Tokio (*Fenton*); Oiwake (*Pryer*); Altai; Amur; Europe.

## 173. DIACRISIA IRENE.

*Diacrisia irene*, Butl. Trans. Ent. Soc. 1881, p. 6.

There is one example from Tokio in the National Collection at South Kensington, which appears to differ from *D. russula* only in the absence of markings on the wings. Perhaps this is only an uncommon form of *D. russula*?

Tokio (*Fenton*).

## 174. DIACRISIA RUSSULA.

♀. *Phalæna-Bombyx russula*, Linn. Syst. Nat. x. p. 510.

♂. *Phalæna-Bombyx sannio*, Linn. Syst. Nat. x. p. 506.

*Bombyx russula*, Hübn. Bomb. pl. 29. figs. 124-5.

Examples of both sexes in Pryer's collection, and I took one at Gensan in July.

Nikko, Fufjisan, Oiwake (*Pryer*); Gensan (*Leech*); Corea (*Herz*).

#### 175. NEMEOPHILA METALKANA.

*Nemeophila metalkana*, Led. Wien. Monats. 1861, p. 152, t. 3. 12.

*Chelonia flavida*, Brem. Bull. de l'Acad. tom. iii. p. 861; Lep. Ost-Sib. p. 39, t. iv. fig. 4.

Several examples, coll. Pryer. I took a specimen at Gensan in June.

Three of the specimens in Pryer's series of this species were labelled *subvaria*, but this was most certainly an error. *D. subvaria* does not appear to occur in Japan.

Yesso (*Pryer*); Gensan (*Leech*); Corea (*Herz*).

#### 176. RHYPARIOIDES SUBVARIA.

*Diacrisia subvaria*, Walk. Cat. Lep. Het. iii. p. 637 (1855); Butl. Ill. Typ. Lep. Het. pt. ii. p. 5, pl. xxiii. fig. 3 (1878).

Walker's type of this species was from N. China. There were no specimens of this species in Pryer's collection, neither did I meet with it in any part of Japan. Specimens labelled *subvaria* were in Pryer's collection, but these are *metalkana*, Led. I received a fine series of *R. subvaria* from a native collector at Ningpo, which agree perfectly with Mr. Butler's figure and description of that species.

There are no examples of this species from Japan in the National Collection, South Kensington.

? Hakodate (*Whitely*); ? Yokohama (*Jonas*); Ningpo, N. China, Hongkong.

#### 177. RHYPARIOIDES RUBESCENS.

*Spilosoma rubescens*, Walk. Cat. Lep. Het. iii. p. 677 (1855).

*Chelonia rubescens*, var. *amurensis*, Brem. Lep. Ost-Sib. p. 39, tab. iii. fig. 16 (1864).

*Rhyparioides nebulosa*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 396 (1877); Ill. Typ. Lep. Het. pt. ii. p. 5, pl. xxiii. fig. 2 (1878).

An exceedingly variable species occurring throughout Japan. I am not satisfied that *R. simplicior*, Butl. (Trans. Ent. Soc. 1881, p. 6), is anything more than a var. of this species.

Hakodate (*Whitely*); Yokohama (*Jonas, Pryer*); Hakone, Hakodate, Gensan (*Leech*); Tokio.

#### 178. RHYPARIA PURPUREA.

*Phalæna-Bombyx purpurea*, Linn. Syst. Nat. xii. p. 828.

*Bombyx purpurea*, Hübn. Bomb. pl. 33. fig. 142.

Only two examples of this species, one of which I bred from a

larva obtained at Gensan, and the other was in a series of *R. amurensis* in Pryer's collection.

Oiwake (*Pryer*); Gensan (*Leech*); Amur; Europe.

#### 179. EUPREPIA CAIA.

*Phalæna-Bombyx caja*, Linn. Syst. Nat. x. p. 500.

*Euprepia phæosoma*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 395. n. 8 (1877); Ill. Typ. Lep. Het. pt. iii. p. 7, pl. xlii. fig. 10 (1879).

*Euprepia phæosoma*, var. *auripennis*, Butl. Trans. Ent. Soc. 1881, p. 7.

Six examples in Pryer's collection under the name of *A. caia*. I took a specimen in September 1886, at Sendai.

There appears to be no constant difference between these Japanese insects and more or less typical examples of *A. caia* from any part of Europe; but, curiously enough, not one of them agrees exactly with Butler's description of *E. phæosoma*, although I have specimens among my European series of *A. caia*, to which that description applies in every particular.

The number and also the size and shape of spots on secondaries are most unstable characters, and no more value attaches to them than to the excentricities of the mazy cream-coloured pattern on primaries.

Oiwake, Yesso (*Pryer*); Yokohama (*Jonas*); Nikko, Tokio (*B. M.*); Sendai (*Leech*); Corea (*Herz*).

#### 180. HYPERCOMPA HISTRIO.

*Hypercompa histrio*, Walk. Cat. Lep. Het. iii. p. 654 (1855); Rom. Mém. Lép. t. iii. p. 333, pl. xv. fig. 2.

Two specimens I took at Gensan in July 1886 agree with an example I obtained at Ningpo in April of the same year.

Ningpo, Gensan (*Leech*); Shanghai.

#### 181. ALPENUS FLAMMEOLUS.

*Alpenus flammeolus*, Moore, Ann. & Mag. Nat. Hist. (4) xx. p. 88.

Of this species, which has not been previously recorded from Japan, I took three specimens at Nagasaki in June, and one at Shimonoseki in July. There was also one example in Pryer's collection. All these are males; the only females I have are from China.

Nagasaki, Shimonoseki (*Leech*); Ningpo, Kiukiang.

#### 182. THANATARCTIA INFERNALIS.

*Thanatarctia infernalis*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 395 (1877); Ill. Typ. Lep. Het. pt. iii. p. 7, pl. xlii. fig. 9 (1879).

Four males: two coll. Pryer, one I took myself at Hakodate in August, and one I received from a native collector.

Nikko and Oiwake (*Pryer*); Hakodate.

183. *SPILOSOMA FULIGINOSA*.

*Phalæna-Bombyx fuliginosa*, Linn. Syst. Nat. xii. 2, p. 836.

Two examples, coll. Pryer.

Japan (*Pryer*).

184. *SPILOSOMA LUCTIFERA*.

*Bombyx luctifera*, Esp. Schmett. iii. pl. 43. figs. 1-5.

*Atolmis japonica*, Walk. Cat. Lep. Het. Suppl. i. p. 223 (1864).

*Estigmene mærens*, Butl. Cist. Ent. vol. iii. p. 114 (1885).

I took an example at Nagasaki in June, and there were three specimens in Pryer's collection.

Yokohama, Nikko, Oiwake (*Pryer*); Nagasaki (*Leech*).

185. *SPILOSOMA MENTHASTRI*.

*Bombyx menthastri*, Fabr. Ent. Syst. iii. p. 452. 140.

*Estigmene menthastri*, Hübn. Verz. Schmett. p. 184.

*Spilosoma punctarum*, Cram. Pap. Exot. iv. p. 233, pl. 398. fig. D.

*Spilosoma sangaica*, Walk. Cat. Lep. Het. Suppl. i. p. 294.

An abundant species in Japan and Corea, varying greatly in the number and size of spots on the wings, also in colour of body, which ranges from pale yellow to vermilion. Further the ground-colour of primaries and thorax is buff instead of the normal white, agreeing in this respect with examples from the north of England.

Nagasaki, Tsuruga, Hakodate, Hakone (*Leech*); Yokohama (*Pryer*); Gensan, Ningpo, Shanghai; Amur; Europe.

186. *SPILOSOMA SERIATOPUNCTATA*.

*Arctia seriatopunctata*, Motsch. Et. Ent. 1860, p. 31.

? *Arctia punctigera*, Motsch. *l. c.*

*Spilarctia ione*, Butl. Cist. Ent. ii. p. 41 (1875); Ill. Typ. Lep. Het. pt. iii. pl. xlii. fig. 6.

*Arctia rosacea*, Butl. Ann. & Mag. Nat. Hist. (5) iv. p. 352 (1879).

*Spilarctia basilimbata*, Butl. Trans. Ent. Soc. 1881, p. 6.

A very long series from various localities in Japan, the majority of the specimens from Hakodate. These were taken in June, July, and August. This appears to be a most variable species; some examples are hardly, if at all, different from *S. lubricepeda* of Europe, others agree with *rosacea*, Butl., others, again, are identical with *basilimbata*, Butl., and intermediates connect these forms one with the other.

Tokio (*Fenton*); Hakodate, Gensan (*Leech*); Yokohama (*Pryer* and *Manley*); Oiwake (*Pryer*).

187. *SPILOSOMA BISECTA*, sp. n. (Plate XXXI. fig. 3.)

♀. Primaries buff-coloured, traversed by an interrupted line of spots from centre of inner margin to apex of wing; secondaries pale

buff, with a black discal spot and one or two smaller black spots near the outer margin and towards the anal angle. Thorax buff, bisected by a black line; body brilliant scarlet, except anal and basal extremities, which are buff; a row of black dorsal spots, and another along the sides. Under surface of wings as above, but markings on primaries more distinct, and a rosy flush about the disco-costal area. Antennæ slightly pectinated; pectus brown; femora of fore legs rosy.

Expanse 47 millim.

I took two male specimens of this insect, which may be compared with *seriatio-punctata*, Motsch., but from which it may be readily separated by the black thoracic streak.

Hongkong (March); Nagasaki (May).

There is an unnamed specimen of this species in Dr. Staudinger's collection.

#### 188. SPILOSOMA SUBCARNEA.

♀. *Spilosoma subcarnea*, Walk. Cat. Lep. Het. iii. p. 675 (1855).

♀. *Aloa bifrons*, Walk. Cat. Lep. Het. iii. p. 705 (1855).

*Aloa leucothorax*, Feld. Wien. ent. Mon. vi. p. 36.

*Spilarctia subcarnea*, Butl. Ill. Typ. Lep. Het. pt. iii. pl. xlii. fig. 8 (1879).

Hongkong, North China, Ningpo, Yokohama (*Manley* and *Pryer*).

#### 189. SPILOSOMA LUBRICEPEDA.

*Bombyx lubricipeda*, Esp. Schmett. iii. pl. 66. figs. 1-5.

I took two specimens at Gensan in July.

Gensan (*Leech*); Amur; Europe.

#### 190. SPILOSOMA MOLLICULA.

♀. *Spilarctia mollicula*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 395 (1877); Ill. Typ. Lep. Het. pt. iii. p. 6, pl. xlii. fig. 7 (1879).

I did not meet with this species in Japan, and there were no specimens of it in *Pryer's* collection.

Hakodate (*Whitely*).

#### 191. SPILOSOMA INÆQUALIS.

*Spilarctia inæqualis*, Butl. Ann. & Mag. Nat. Hist. (5) iv. p. 351 (1879).

A fine series in *Pryer's* collection, varying greatly not only in colour, which ranges in tint from almost pure white to a rich buff-yellow, but also in the intensity of the black markings.

Ohoyama, Fujisan (*Pryer*); Hakone (*Leech*).

#### 192. SPILARCTIA BIFASCIATA.

*Spilarctia bifasciata*, Butl. Trans. Ent. Soc. 1881, p. 7.

Four examples, in one of which the inner row of black dots forming the basal fascia is represented by a small spot on the costa and one just above inner margin.

Tokio (*Fenton*); Nikko (*Pryer*); Yokohama (*Manley*).

## 193. SPILARCTIA IMPARILIS.

*Spilarctia imparilis*, Butl. ♂, Ann. & Mag. Nat. Hist. (4) xx. p. 394 (1877); Ill. Typ. Lep. Het. ii. p. 4, pl. xxii. fig. 4 (1878); ♀, Ann. & Mag. Nat. Hist. (5) iv. p. 351 (1879).

Several examples, coll. Pryer.

The markings of the male are fairly constant, but the maculation of the female is subject to considerable modification, and in some examples of this sex almost entirely absent.

Yokohama (*Jonas*); Yesso (*Pryer*); Hakone (*Smith*).

## 194. SERIARCTIA LEWISII.

*Seriartia lewisii*, Butl. Cist. Ent. vol. iii. p. 115 (1885)

Eight specimens, coll. Pryer.

The marking of primaries is very constant, but on the secondaries the maculation is subject to variation.

Nikko, Oiwake (*Pryer*).

## 195. ALOA LACTINEA.

*Phalæna lactinea*, Cram. Pap. Exot. ii. p. 58, pl. 133. fig. D.

*Bombyx sanguinolenta*, Fabr. Ent. Syst. iii. 1, p. 473. 206.

*Estigmene lactinea*, Hübn. Verz. Schmett. p. 184. 1894.

*Aloa lactinea*, Walk. Cat. Lep. Het. iii. p. 702.

Nine specimens, coll. Pryer.

Varies considerably, the number of black spots ranging from but a slight trace of a single spot to five distinct large spots.

Yokohama (*Pryer*, *Manley*); North China, North India, Nepaul, Ceylon, East Indies, Australia.

## 196. DIONYCHOPHIUS NIVEUS.

*Dionychopius niveus*, Mén. Bull. Phys. Pétersb. iii. p. 108; Bull. de l'Acad. t. xvii. p. 218; Schr. Amur Reisen, p. 52, tab. iv. fig. 6.

Varies in the intensity of red lateral spots on abdomen. Normally the female has six of these spots and the male five, but a male from Gensan has only two distinct, and three faint red spots on side of body. The usual dorsal series of black spots may also be absent. There is further some modification in the character of the discal spot on secondaries; in some specimens this is conspicuous, whilst in others it is scarcely discernible.

Oiwake, Yokohama (*Pryer*); Hakodate, Sendai, Hakone, and Gensan (*Leach*); Amur.

## 197. BIRETA PLUMOSA, sp. n. (Plate XXXI. fig. 4.)

♂. Primaries yellowish buff, darker along the inner margin, clouded about the disk and towards the apex with purplish brown. Secondaries silky white with a faint yellowish tinge. Thorax and abdomen buff; antennæ plumose. Underside uniform yellowish white, silky.

♀. Resembles male, but primaries clouded with ochreous; antennæ simple.

Closely allied to *B. straminea*, but secondaries of both sexes paler, and antennæ of male plumose and not simply pectinated.

Two specimens, coll. Pryer, ♂ ♀. Ohoyama.

Expanse, ♂ 53 millim., ♀ 51 millim. No. 48 Pryer's Cat. As. Soc. Jap., May 1883.

#### 198. BIRETA STRAMINEA.

*Ceira straminea*, Moore, Ann. & Mag. Nat. Hist. (4) xx. p. 91 (1877).

I took this species at Gensan in July, and there were several examples in coll. Pryer.

Yokohama (Pryer and Manley); Gensan (Leech).

#### 199. BIRETA PALLIDA.

*Bireta pallida*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 473 (1877); Ill. Typ. Lep. Het. pt. ii. p. 12, pl. xxv. figs 10, 11 (1878).

A few examples in a long series of *Bireta*, composed principally of specimens of *B. straminea*, in Pryer's collection.

Yokohama (Jonas, Pryer, and Manley).

#### 200. LÆLIA GIGANTEA.

*Lælia gigantea*, Butl. Cist. Ent. vol. iii. p. 117.

One male and six females in coll. Pryer.

Oiwake (Pryer).

#### 201. LÆLIA CÆNOSA.

*Bombyx cænosa*, Hübn. Bomb. pl. 51. fig. 218.

*Bombyx sangaica*, Moore, Ann. & Mag. Nat. Hist. (4) xx. p. 92 (1877).

*Leucoma brevicornis*, Walk. l. c. vii. p. 1729 (1856).

? = *Lælia sinensis*, Walk. Cat. Lep. Het. iv. p. 829 (1855); Butl. Ill. Typ. Lep. Het. pt. iii. p. 9, pl. xliii. fig. 8 (1879).

Eleven ♂ and 2 ♀, coll. Pryer. A little darker as a rule, but otherwise Japanese examples do not differ from European specimens of *L. cænosa*. Some of the specimens, however, agree with *L. sinensis*, Walk., the type of which came from Hong-Kong; Dr. Fixsen records a specimen of the last-named from Corea.

Yokohama (Pryer); Hakodate, Gensan, and Ningpo (Leech).

#### 202. LEUCOMA SUBVITREA.

*Leucoma subvitrea*, Walk. Cat. Lep. Het. Suppl. ii. p. 344.

? = *Aroa alba*, Brem. Lep. Ost-Sib. p. 41, tab. iii. fig. 18 (1864).

I obtained this species at Gensan in July 1886, and an example of each sex at Fusan in June 1886. Five specimens in Pryer's collection are not localized, but in his Catalogue he gives Nikko.

Nikko (Pryer); Fusan, Gensan (Leech); Hindustan. ? Amur.



## 203. LEUCOMA AURIPES.

*Leucoma auripes*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 402 (1877); Ill. Typ. Lep. Het. ii. p. 9, pl. xxiv. fig. 1 (1878).

I did not meet with this species in Japan, but there were four males and three females in Pryer's collection. Three of the former and one of the latter are labelled Yesso, 1882. In the same collection three small specimens of *L. auripes*, also from Yesso, were set apart and are the no. 161 of Pryer's Catalogue. These small specimens agree with a series I obtained at Gensan in 1886. The smallest ♂ in this series measures only 40 millim., and the largest ♂ 49 millim.; the smallest ♀ 44 millim., and the largest ♀ 58 millim.; whereas the measurements of typical examples are, 58 millim. for ♂, and 68 millim. for ♀.

Common at Gensan, flying among fir-trees in the daytime.

The primaries of ♀ have no black costal edging as in the ♂.

Yokohama (*Jonas*); Yesso (*Pryer*); Gensan (*Leech*).

## 204. LARIA L-NIGRUM.

*Phalæna-Bombyx l-nigrum*, Mueller, Faun. Fr. p. 40 (1764).

*Bombyx v-nigrum*, Fabr. Syst. Ent. p. 577 (1775).

Four males and one female, coll. Pryer. The male from Japan, like the same sex of this species from Ningpo and Kiukiang, has a round black spot at end of discal cell instead of the usual L or V. The female, on the other hand, has a well-developed V-like mark.

Ohoyama, Nikko (*Pryer*); Ningpo (*Leech*); Corea (*Herz*). Europe.

## 205. STILPNOTIA SALICIS.

*Phalæna-Bombyx salicis*, Linn. Syst. Nat. x. p. 502.

Several examples in coll. Pryer. Perhaps a little more densely scaled, but otherwise Japanese specimens agree very well with the European type.

Tokio, Yesso (*Pryer*); Corea (*Herz*).

## 206. PORTHESIA CHRYSORRHÆA.

*Phalæna-Bombyx chrysorrhæa*, Linn. Syst. Nat. x. p. 502.

*Bombyx chrysorrhæa*, Hübn. pl. 18. fig. 67, pl. 58. figs. 248-9.

A ♀ example at Nagahama, July.

## 207. PORTHESIA AURIFLUA.

*Bombyx auriflua*, Fabr. Mant. p. 125 (1717).

*Bombyx auriflua*, Hübn. Bomb. pl. 18. figs. 68, 69.

*Bombyx chrysorrhæa*, Esp. Schmett. iii. pl. 39. figs. 1, 2, 7.

Among Japanese and Korean examples of this species there is much variation in the markings of primaries. In typical ♂ specimens of *P. auriflua* there is a brownish-black spot on the inner margin near anal angle, and such specimens there are in my series from Japan and Gensan; but others have an additional spot towards the base of the inner margin, and other examples again have a third

spot placed near the costa and directly above that last referred to ; one has a fourth spot towards apex. On the other hand, there are specimens with but the slightest trace of a spot at anal angle. As a rule the female is without markings, but sometimes a brownish spot appears at anal angle, and one example of this sex in Pryer's collection has the basal spot also well developed.

There is considerable difference in size, as will be seen by the following measurements :—

Smallest ♂	24 millim.	Largest ♂	36 millim.
„ ♀	33 millim.	„ ♀	46 millim.

Thus it will be seen that the largest ♀ is almost twice the size of the smallest ♂ in wing expanse, whilst this last is one third less in expanse than the largest ♂.

Yokohama, Oiwake, Yesso (*Pryer*) ; Fushiki, Gensan (*Leech*) ; Ningpo ; Armenia, Altai, Amur, Europe.

#### 208. PORTHESIA RADDEI.

*Porthesia raddei*, Staud., Rom. Mém. sur Léop. vol. iii. pp. 207, 343, pl. xvii. f. 3.

Corea (*Herz*).

#### 209. ARTAXA SUBFLAVA.

*Aroa subflava*, Brem. Lep. Ost-Sib. p. 41, tab. iii. fig. 19 (1864).

*Leucoma subflava*, var. *piperita*, Oberth. Etud. d'Entom. v. p. 35.

Of the type of this species, which Bremer says is very like *helladia*, Cram., I have no specimen, but there were two examples of var. *piperita* in Pryer's collection taken at Oiwake. These very closely resemble *Porthesia snelleni*, Staud., Rom. Mém. sur Léop. iii. p. 207, pl. xii. fig. 3.

Oiwake (*Pryer*).

#### 210. ARTAXA INTENSA.

*Artaxa intensa*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 402 (1877) ; Ill. Typ. Lep. Het. pt. ii. p. 10, pl. xxiii. fig. 12 (1878).

A long series from various parts of Japan and Corea. Some of the specimens have two distinct black spots near apex of primaries, others have only one, whilst some other examples again have not a trace of any such marking. Further, there are two specimens which appear to me to be varieties of this species ; one of these is identical with *flavinata*, Walk., and the other with *conspersa*, Butl. Without a longer series it is not possible to form an opinion as to the legitimate rank of these two last.

Yokohama (*Jonas* and *Pryer*) ; Oiwake (*Pryer*) ; Tsuruga, Fusan, Gensan, Ningpo (*Leech*).

#### 211. ARTAXA PULVEREA, sp. n. (Plate XXXI. fig. 5.)

Allied to *A. subflava* var. *piperita* but smaller, the primaries are of a deeper yellow sparingly sprinkled from the base nearly to the

outer margin with brown scales; these form a sort of cloak, the external edge of which is bordered with some silvery spots. Secondaries and under surface of all the wings buff without spot or marking.

Expanse, ♂ 24–32 millim., ♀ 37 millim.

I took this species in Satsuma in May, Nagasaki in June, and Gensan in July. The ♂ coll. Pryer.

Japan (*Pryer*); Satsuma, Nagasaki, Gensan (*Leech*).

#### 212. ARTAXA SCINTILLANS.

*Somena scintillans*, Walk. Cat. Lep. Het. vii. p. 1734 (1856).

*Artaxa scintillans*, Butl. Ill. Typ. Lep. Het. pt. v. p. 52, pl. xc. fig. 1 (1881).

*Artaxa limbata*, Butl. l. c. p. 53, pl. xc. fig. 3.

Two examples.

Gensan, Ningpo, Darjeeling, North India.

#### 213. ARTAXA CONSPERSA.

*Artaxa conspersa*, Butl. Cist. Ent. vol. iii. p. 117 (1885).

A long series in Pryer's collection.

The males are mostly of a dark chocolate colour, but the females are pale yellow; some of the males, however, are quite of the female coloration and others are intermediate.

Yokohama (*Pryer*).

#### 214. CHÆROTRICHE STAUDINGERI, sp. n. (Plate XXXI. fig. 6.)

Deep buff-yellow; primaries with a purple-brown basal patch and a curved central fascia, the latter is contracted just below the costa: discal spot black, round and well defined; secondaries without spot. Antennæ broadly pectinated. Head and thorax orange. Abdomen velvety black, base and anal tuft orange. Under surface buff-yellow; central area of primaries slightly darker.

Expanse, ♂ 36–44 millim., ♀ 48–60 millim.

An example of this species is represented in the National Collection at South Kensington by two wings.

Yokohama (*Pryer* and *Leech*).

#### 215. CHÆROTRICHE NIPHONIS.

♂. *Chærotriche niphonis*, Butl. Trans. Ent. Soc. 1881, p. 9.

♀. *Chærotriche squamosa*, Butl. l. c.

*Porthesia raddei*, Staud., Rom. Mém. sur Léop. iii. p. 207, pl. xvii. ♂, fig. 3 (1887).

There can be little doubt that Butler's *C. squamosa* is the female of his *C. niphonis*. I took an example of each sex at Gensan and in Pryer's collection there were seven males in splendid condition, and two females not quite so fine. Six of the former are labelled Oiwake and one of the last Yesso. In the male specimens there is considerable variation in the coloration of primaries. Three examples have the buff costal border represented by a buff edging to the costa itself and a streak of the same colour along the costal nerve as

far as black spot at end of discal cell. In the female all the wings are buff with the dark colour of the male showing only as a broad patch along the inner half of the wing, but not touching either the base or the outer margin; there are, however, distinct traces of a narrow stripe of the dark colour extending from the top posterior edge of the patch right through to the costa near the apex. Only that the male has dark secondaries, the Gensan specimens are almost alike in markings.

On the under surface the males are just as variable as above. In one example all the wings are dark smoky brown with buff fringes and a very slender buff costal edging, and in another specimen the smoky-brown primaries are broadly bordered on the costa and outer margin with buff, whilst the secondaries are buff tinged with smoky brown between the discal cell and outer margin. This example has a distinct black spot at the end of the cell on each wing, but similar spots are to be traced, more or less clearly, in all the specimens. In his descriptions of *niphonis* and *squamosa*, Mr. Butler makes no reference to these spots in the first-named, but he gives them as a character of *squamosa*.

Tokio (*Fenton*); Yokohama, Oiwake, Yesso (*Pryer*); Gensan (*Leech*).

216. PÆCILOCAMPA SUBPURPUREA.

*Pæcilocampa subpurpurea*, Butl. Trans. Ent. Soc. 1881, p. 18.

Tokio (*Fenton*).

217. ANDRACA GRACILIS.

*Andraca gracilis*, Butl. Cist. Ent. vol. iii. p. 125 (1885).

Two examples, coll. Pryer.

Nikko (*Pryer*).

218. ORGYIA THYELLINA.

♂. *Orgyia thyellina*, Butl. Trans. Ent. Soc. 1881, p. 10.

A fine series, coll. Pryer, including four female specimens with well-developed wings, and three examples of the same sex, in which the wings are dwarfed, but with the markings reproduced in miniature. As the female has not been previously noticed a description is appended.

♀. Primaries whitish, with an ill-defined dark discal spot and ferruginous markings, the most conspicuous of which are a large roundish patch at base between median nervure and inner margin, a cloud on outer third towards apex, from the lower edge of which a curved stripe, bordered externally with the whitish ground-colour, runs to inner margin, and two angulated transverse lines on disk, between which is an indistinct ferruginous shade; near the costa and towards apex is an elongated blackish spot and at external angle tapering towards middle of outer margin is a purplish-grey patch enclosing three blackish lunules bordered internally with whitish. Secondaries pale whitish brown, with a small brown patch near anal angle, and an indistinct brownish submarginal band. Under surface

pale whitish brown; primaries with discal and apical spots as above; there are also two small brownish spots at outer angle; on secondaries are a discal spot and a linear dash near anal angle brownish.

Expanse 44–48 millim. (Plate XXXI. figs. 7, 7a.)

Although very different in coloration, the markings of the female are exactly of the same character as those of the male. In reference to the females with ill-developed wings it should be said that these organs are very similar in appearance to the wings of a moth on its first emerging from the pupa and gives one the idea of arrested development. Instances of this nature are not unknown to the breeder of Lepidoptera, although the cause is not understood. There is nothing to show whether Pryer's specimens of this species were captured or bred; but as the semiapterous form is nearer to typical female *Orgyia* we may reasonably suppose that such forms as that figured are usual with *O. thyellina*.

Tokio (*Fenton*); Yokohama, Oiwake (*Pryer*).

#### 219. ORGYIA GONOSTIGMA.

*Bombyx gonostigma*, Fabr. Syst. Ent. p. 585 (1775); Hübn. Bomb. pl. xx. fig. 78.

*Orgyia approximans*, Butl. Trans. Ent. Soc. 1881, p. 10.

One example in Pryer's collection from Oiwake.

The tone of colour and number of white apical spots are such variable characters in *O. gonostigma* that it is certainly an unnecessary addition to synonymy to endeavour to establish a species on such slight differences as those upon which Mr. Butler has relied in his differentiation of *O. approximans*.

Oiwake (*Pryer*).

#### 220. PRISMOSTICTA HYALINATA.

*Prismosticta hyalinata*, Butl. Cist. Ent. vol. iii. p. 125.

This is no. 163 of Pryer's Catalogue, and there were several specimens in his collection chiefly from Oiwake.

Oiwake, Nikko (*Pryer*).

#### 221. BOMBYX MORI.

*Phalæna mori*, Linn. Syst. Nat. ii. p. 817. 33 (1767).

Several specimens, coll. Pryer.

Yokohama (*Pryer*).

#### 222. BOMBYX MANDARINUS.

*Theophila mandarina*, Moore, Proc. Zool. Soc. 1872, p. 576, pl. xxxiii. fig. 5.

A fine series in coll. Pryer. I took two males at Gensan in July.

This species is probably the wild form of the silkworm of commerce, *B. mori*. It is much darker in colour and has very distinct markings; the female is much larger than the same sex of *B. mori*. Compared with that of the cultivated silkworm the cocoon of *B. mandarinus* is very flimsy.

Yokohama (*Pryer*); Hakodate (*Andrews*); Gensan (*Leech*).

## 223. BOMBYX NEUSTRIA.

*Phalæna neustria*, Linn. Syst. Nat. x. p. 500.

? *Clisiocampa testacea*, Motsch. Et. Ent. 1860, p. 32.

I took specimens at Nagasaki in June and Gensan in July; these with a number from Pryer's collection make up a good series, exhibiting much variation, but nothing calling for special notice.

Nagahama, Nagasaki, Gensan (*Leech*); Yokohama, Oiwake (*Pryer*); Kiukiang (*Pratt*); Corea.

## 224. APHA TYCHOONA.

*Apha tychoona*, Butl. Ent. Mo. Mag. xiv. p. 207 (1878); Ill. Typ. Lep. Het. pt. ii. p. 18, pl. xxvii. fig. 5.

A nice series from Japan, showing some variation in colour.

Yokohama (*Pryer*); Hakodate (*Leech*).

## 225. LASIOCAMPA FASCIATELLA.

*Bombyx fasciatella*, Mén. Bull. de l'Acad. t. xvii. p. 218. no. 25; Schrenck's Amur Reisen, p. 55, tab. iv. fig. 8; Rom. Mém. sur Lép. vol. iii. p. 344.

Corea (*Herz*).

## 226. LASIOCAMPA PRUNI.

*Phalæna-Bombyx pruni*, Linn. Syst. Nat. x. p. 498, xii. p. 813.

*Bombyx pruni*, Hübn. Bomb. pl. 42. fig. 186.

Three males in Pryer's collection.

Hakodate (*Leech*); Yokohama, Nikko (*Pryer*); Europe.

## 227. CHROSTOGASTRIA BREVIVENIS.

*Chrostogastria brevivenis*, Butl. Cist. Ent. vol. iii. p. 119 (1885).

Three male examples. No. 185 of Pryer's Catalogue is referable to this species.

Nikko (*Pryer*); Hakodate (*Leech*).

## 228. EUTRICHA EXCELLENS.

*Odonestis excellens*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 481 (1877); Ill. Typ. Lep. Het. pt. ii. p. 19, pl. xxvi. figs. 4, 5 (1878).

Var. *unicolor*, Oberth. Etud. d'Entom. v. p. 38 (1880).

A fine series, varying in size and markings.

Yokohama (*Pryer* and *Manley*).

## 229. EUTRICHA PINI.

*Phalæna-Bombyx pini*, Linn. Syst. Nat. x. p. 498.

*Odonestis superans*, Butl. Ill. Typ. Lep. Het. ii. p. 19. pl. xxvii. fig. 4.

*Eutricha fentoni*, Butl. Trans. Ent. Soc. 1881, p. 17.

*Eutricha zonata*, Butl. l. c.

♂. *Eutricha dolosa*, Butl. l. c. p. 16.

This is a very variable species, both in Japan and Europe.

Yokohama, Oiwake (*Pryer*); Hakodate (*Leech*); Tokio; Corea, Europe (*Herz*).

## 230. EUTRICHA REMOTA.

*Lasiocampa remota*, Walk. Cat. Lep. Het. vi. p. 1439.

? *Lebeda hebes*, Walk. *op. cit.* p. 1462.

*Æona segregata*, Butl. Ill. Typ. Lep. Het. pt. ii. p. 20, pl. xxvi. figs. 6 & 7.

*Æona spectabilis*, Butl. *op. cit.* p. 19, pl. xxvii. fig. 3.

I took this species in all kinds of forms at Nagasaki and Shimomoseki. ♀ *Æona dolosa*, Butl., in national collection at South Kensington, is referable to this species.

Yokohama, Oiwake (*Pryer*); Tokio, Shanghai, North China.

## 231. ODONESTIS LÆTA.

*Amydona læta*, Walk. Cat. Lep. Het. vi. p. 1416 (1855).

One specimen at Tsuruga, July 1886, which I believe to be the only one from Japan.

Tsuruga (*Leech*); Corea (*Herz*).

## 232. ODONESTIS POTATORIA.

*Phalæna-Bombyx potatoria*, Linn. Syst. Nat. xii. p. 813.

*Odonestis albomaculata*, Brem. Bull. de l'Acad. Pét. 1861, tom. iii.; Lep. Ost-Sib. p. 42, tab. iv. 6 ♂, t. iii. 20 ♀.

Var. *askoldensis*, Oberth. Et. Ent. v. p. 38.

In the series of this species from Japan there are specimens which agree exactly with typical *potatoria*, Linn., and others which are most certainly identical with *O. albomaculata*, Brem., whilst between these two forms are aberrations, including a dark one near the variety *askoldensis* of Oberthür, which cannot be satisfactorily referred to either form; these serve as connecting-links and I think prove the identity of *O. potatoria* and *O. albomaculata*.

Yokohama (*Pryer*); Hakone, Gensan (*Leech*); Corea (*Herz*).

## 233. TRABALA CRISTATA.

*Trabala cristata*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 480 (1877); Ill. Typ. Lep. Het. pt. ii. p. 18, pl. xxvii. fig. 1 (1878).

Seven specimens, including five from coll. Pryer.

Yokohama (*Jonas and Pryer*); Nagahama (*Leech*).

## 234. GASTROPACHA ILICIFOLIA.

*Phalæna-Bombyx ilicifolia*, Linn. Faun. Suec. p. 293; Syst. Nat. xii. p. 813.

Var. JAPONICA.

One male and two females, coll. Pryer.

The Japanese form of *G. ilicifolia* differs from the European type in size and colour. It expands 56 millim. and is pale reddish brown, with all the violet-tinged white markings well defined; there is, however, no character by which it may be specifically separated from *G. ilicifolia*, therefore I propose for it the varietal name *japonica*.

Yesso (*Pryer*).

235. *GASTROPACHA QUERCIFOLIA*.

*Phalæna-Bombyx quercifolia*, Linn. Syst. Nat. x. p. 497; (*Bombyx*)  
Hübner. Bomb. pl. xliii. figs. 187, 188.

*Gastropacha quercifolia*, Ochs. Schmett. Eur. iii. p. 247.

Japanese specimens are rich in colour and most nearly approach the form *alnifolia*, Ochs. Pryer says in his Catalogue that larvæ of this species are abundant at Fūjisan.

A specimen which I bred from a larva found at Gensan is much paler than either Japanese or European examples in my collection.

Yokohama (*Pryer*); Cōrea (*Leech*). Europe.

236. *GASTROPACHA POPULIFOLIA*.

*Bombyx populifolia*, Esp. Schmett. iii. pl. 6. figs. 3, 4.

*Gastropacha populifolia*, Ochs. Schmett. Eur. iii. p. 45. 3.

Two males, one from Pryer's coll. and the other I took at Hakodate in August.

Yokohama (*Pryer*); Hakodate (*Leech*); Corea (*Herz*). Europe.

237. *NUMENES DISPARILIS*.

*Numenes disparilis*, Staud., Rom. Mém. sur Lép. iii. p. 200, pl. xi. figs. 2a, 2b.

Two female specimens in Pryer's collection; these are referable to no. 136 of his Catalogue, and the locality there given is Asamayama; but whether this applies to both examples it is not possible to say, as there are no locality tickets attached to the insects. They agree exactly with specimens from Kiukiang.

Asamayama (*Pryer*); Vladivostok, Askold.

238. *LYMANTRIA ALBOFASCIA*, sp. n. (Plate XXXI. fig. 8.)

♂. Brownish black; primaries with an oblique broad white fascia from costa towards apex to outer angle. Head, thorax, and legs chestnut-brown. Abdomen yellowish brown beneath. Under surface of primaries as above, but apical third yellowish white, with some orange scales along costa and outer margin.

Expanse 56 millim.

One example of this remarkable species in Pryer's collection.

Ohoyama (*Pryer*).

239. *LYMANTRIA AURORA*.

♀. *Lymantria aurora*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 403 (1878); Ill. Typ. Lep. Het. ii. p. 11, pl. xxiv. fig. 5 (1878).

Var. *FUSCA*.

This species varies greatly in the matter of size. The male also exhibits considerable differences in the depth of colour. The example figured Plate XXXI. fig. 9 is one of four specimens of the darkest form; these were taken at Nagahama in July. I propose that this form should be known as var. *fusca*.

Yokohama (*Jonas* and *Pryer*); Kurile Islands, Yesso, Oiwake (*Pryer*); Nagahama, Tsuruga, Sendai, Gensan (*Leech*).



## 240. LYMANTRIA DISPAR.

*Phalæna dispar*, Linn. Syst. Nat. x. p. 501.

Var. *japonica*, Motsch. Etud. Ent. 1860, p. 31.

*Porthetria umbrosa*, Butl. Trans. Ent. Soc. 1881, p. 10.

*Porthetria hadina*, Butl. Trans. Ent. Soc. 1881, p. 11.

Except that they are somewhat larger male examples of *L. japonica*, Motsch., and *hadina*, Butl., are not separable from European males of *L. dispar* in my possession; whilst between *L. umbrosa*, Butl., and other males of *L. dispar* from Europe, also in my collection, there is not even a difference of size, consequently I cannot regard these insects as anything but forms of *L. dispar*.

If such forms as those referred to were admitted to specific rank there are some other forms of *L. dispar* occurring in Japan which are, apparently, as distinct from those already named as they are from typical *dispar*; these therefore would have to be raised to the dignity of species. Such a course is, however, opposed to the exact demands of science, which requires that we should acquaint ourselves with the geographical range of a species and ascertain all we can touching the variability of such species throughout such range rather than to allow locality to be the determining factor when considering the claim of an insect to specific rank.

In colour (♂) *L. dispar* varies from whitish or pale whity brown through greyish brown up to a dark smoky brown, and in all forms the transverse lines and shades as also the discal spots of primaries may be either well-defined or more or less obliterated. The colour of females ranges from white to a pale fuscous and the markings are of different degrees of intensity.

This colour aberration in *L. dispar* is only equalled by its variability in size. The smallest male in my series from Japan and Corea expands only 37 millim., whilst the largest female in same series measures 114 millim. The following comparative table of measurements of specimens in my possession may not be without interest.

		Japan and Corea.	Europe.
Largest ♂	.....	71	54
„ ♀	.....	114	93
Smallest ♂	.....	37	32
„ ♀	.....	48	42

It will be seen that the difference in measurement between the smallest and largest males is 39 millim., and between the smallest and largest females 72 millim., whilst the smallest male is 82 millim. less in expanse than the largest female.

Yokohama, Yesso (*Pryer*); Fushiki, Nagahama, Gensan (*Leech*); Corea (*Herz*); Tokio (*Fenton*); Hakodate (*Whitely*).

## 241. LYMANTRIA FUMIDA.

♀. *Lymantria fumida*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 402 (1877); Ill. Typ. Lep. Het. ii. p. 10, pl. xxix. fig. 4 (1878).  
Yokohama (*Jonas and Pryer*).

## 242. LYMANTRIA MONACHA.

*Phalæna-Bombyx monacha*, Linn. Syst. Nat. x. p. 501.

A series of typical specimens, coll. Pryer.

Oiwake, Yesso (*Pryer*).

## 243. OCNERIA FURVA, sp. n. (Plate XXXI. fig. 10.)

♂. Brownish black, from the base nearly to outer angle, just above and parallel with the inner margin, is a series of black dots and streaks, around which are numerous pale scales, giving to this part of the wing a whitish appearance. There are also a few subapical black dashes.

♀. Paler, and markings more distinct; a distinct basal band, beyond which is a darkish cloud from the costa to the centre of wing.

Expanse, ♂ 26-35, ♀ 30-40 millim.

Allied to *O. terebynthi*, Freyer, from which, however, it is easily separated. There was a long series in Pryer's collection; it is no. 178 of his Catalogue.

Oiwake (*Pryer*).

## 244. DASYCHIRA LUNULATA.

♂. *Dasychira lunulata*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 403 (1877); Ill. Typ. Lep. Het. pt. ii. p. 11, pl. xxiv. fig. 8 (1878).

*Dasychira acronycta*, Oberth. Etud. d'Entom. v. p. 35, pl. v. ♂, fig. 7 (1880).

♀. *Dasychira solitaria*, Staud. Rom. Mém. s. Léop. iii. pl. xii. fig. 1 (1887).

Three ♂ and three ♀, coll. Pryer. One ♀ from Manley, Yokohama.

Yokohama (*Jonas, Pryer, and Manley*); Oiwake (*Pryer*); Askold; Amur.

## 245. CALLITEARA PUDIBUNDA.

*Phalæna pudibunda*, Linn. Syst. Nat. x. p. 303.

Var. *Dasychira pryeri*, Butl. Cist. Ent. vol. iii. p. 119 (1885).

Var. *Dasychira pudica*, Staud., Rom. Mém. sur Léop. iii. p. 204 (1887).

Var. ? *Orgyia punctatella*, Motsch. Et. Ent. 1860, p. 32.

A nice series, coll. Pryer. Staudinger does not figure his *D. pudica* in the work referred to, but his description of that insect applies exactly to *D. pryeri*, Butl., and this last I consider to be a local form of *C. pudibunda*. I should mention that I took a specimen of *C. pudibunda* var. *concolor*, Staud., at Ningpo in April 1886, and this fact goes far, I think, to confirm my opinion.

Yokohama (*Pryer*); Hakodate, Hakone, and Gensan (*Leech*).

## 246. CALLITEARA ABIETIS.

*Bombyx abietis*, Schiff. S. V. p. 56; Esp. Schmett. p. 82. 1; Hübn. Bomb. pl. xxi. figs. 82, 83.

*Dasychira abietis*, Walk. Cat. Lep. Het. iv. p. 864.

*Dasychira argentata*, Butl. Trans. Ent. Soc. 1881, p. 12.

*Calliteara pseudabietis*, Butl. Cist. Ent. iii. p. 118.

Though certainly somewhat darker in colour, *argentata* is in no other respect separable from *C. abietis*, Schiff. I am therefore disposed to consider it as well as *pseudabietis* forms of that species.

Nikko (*Pryer*); Yokohama.

#### 247. CIFUNA LOCUPLES.

*Cifuna locuples*, Walk. Cat. Lep. Het. v. p. 1173 (1855); Butl. Ill. Typ. Lep. Het. pt. ii. p. 18, pl. xxvii. fig. 6 (1878).

*Artaxia confusa*, Brem. Lep. Ost-Sib. p. 42, t. iv. fig. 5 (1864).

A fine series from Japan varying much in colour and intensity of markings; some of the examples agree exactly with Amur specimens.

Oiwake, Yokohama (*Pryer*); Hakodate, Gensan (*Leech* and *Andrews*); Corea (*Herz*); Amur.

#### 248. PORTHETRIA LUCESCENS.

*Porthetria lucescens*, Butl. Trans. Ent. Soc. 1881, p. 11.

Two specimens in *Pryer's* collection labelled no. 177, Oiwake, July and August 1877; but in his Catalogue the locality given for the species is Ohoyama.

Tokio (*Fenton*).

#### 249. PORTHETRIA EURYDICE.

♂. *Porthetria eurydice*, Butl. Cist. Ent. vol. iii. p. 118 (1885).

♀. *Dasychira amata*, Stgr., Rom. Mém. Léop. vol. iii. p. 206, pl. xii. fig. 2 (1887).

One example of each sex in coll. *Pryer*.

Ohoyama (*Pryer*).

#### 250. AGLIA TAU.

*Phalæna tau*, Linn. Syst. Nat. x. p. 497.

*Bombyx tau*, Hübn. Bomb. pl. 13. figs. 51, 52.

#### Var. JAPONICA.

Two specimens, coll. *Pryer*, Hakodate. In Japanese examples of *A. tau* the submarginal line of all the wings is further from the margin, and less strongly defined on the primaries than in European specimens; the black spot of primaries is also rather smaller, and in the male there is a whitish patch at apices as in female; also the ocellus on secondaries is larger than in European specimens, whilst that on primaries is much smaller. The female is darker than typical specimens of same sex, with the costa, outer third of primaries and costa, and abdominal fold of secondaries thickly sprinkled with black dots and powdered with black scales.

Expanse, ♂ 80, ♀ 108 millim.

These differences are, however, too insignificant to be considered of specific value, so I venture to propose that it be known as *Aglia tau*, var. *japonica*.

Yesso (*Pryer*); Hakodate; Amur; Europe.

## 251. RHODIA FUGAX.

*Rhodia fugax*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 480 (1877); Ill. Typ. Lep. Het. pt. ii. p. 17, pl. xxvi. fig. 1 (1878).

Seven males and three females in coll. Pryer. The males range from 82 to 103 millim., but the females are more uniform, the smallest being 122 millim. and the largest 126 millim. in expanse. According to Pryer, the larva, which he says is "bright green and resembles a butterfly larva," feeds on cherry and other trees, and the imago appears in November and December; the cocoon, which is bright green and resembles a pendent leaf, has "a slit on the top, opening by pressure."

Yokohama (*Pryer*).

## 252. CALIGULA JONASI.

*Caligula jonasii*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 479 (1877); Ill. Typ. Lep. Het. pt. ii. p. 16, pl. xxv. fig. 2 (1878).

Seven examples, coll. Pryer (3 males, 4 females). I took two males at Nikko in September, and a female at Oiwake also in September.

According to Pryer, the larva is hairy and resembles a small larva of *Caligula japonica*.

Yokohama.

## 253. CALIGULA JAPONICA.

*Caligula japonica*, (pupa-case) Moore, Trans. Ent. Soc. (3) i. p. 322 (1862); (imago) Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 479 (1877); Ill. Typ. Lep. Het. pt. ii. p. 16, pl. xxvi. fig. 2 (1878).

Several specimens from various parts of Japan, exhibiting much variation.

Pryer remarks in his Catalogue p. 52:—"Commonly called the wire-cartridge moth, from the resemblance of the cocoon to the wire-net in a cartridge; last year it was found feeding on poplars newly introduced into this country. The natives make a strong coarse silk from the cocoon, and a fine gut from the intestines of the larva. The imago appears in October. The larva hairy."

Yokohama (*Jonas, Pryer*); Nikko (*Leech*); Hakodate.

## 254. ANTHERÆA PERNYI.

*Saturnia pernyi*, Guérin, Rev. et Mag. de Zool. 1855, p. 6. 297, pl. 6. fig. 1.

*Antheræa hazina*, Butl. Trans. Ent. Soc. 1881, p. 13.

*Antheræa fentoni*, Butl. *l. c.*

*Antheræa calida*, Butl. *op. cit.* p. 14.

*Antheræa morosa*, Butl. *l. c.*

My Japanese examples of this *Antheræa* vary in colour from a pale brown, through pale reddish brown to "rusty orange" on the one hand, and to olivaceous and fuliginous brown on the other. The markings are subject to modifications within certain limits, but

in no case is the aberration sufficient to justify separation of the specimen or specimens exhibiting it from *A. pernyi*. There are examples showing the particular characters claimed for the several named forms well defined<sup>1</sup> and also others which do not agree exactly with these named forms or with the type, although they serve admirably to link together the various forms, and to connect one or other of such forms with the type. These prove most clearly the specific identity of all.

Yokohama (*Jonas, Pryer, and Manley*); Tokio (*Fenton*); Kiukiang (*Pratt*); Amur.

#### 255. ATTACUS CYNTHIA.

*Phalæna (Attacus) cynthia*, Drury, ii. p. 91; Cram. Pap. Exot. i. p. 62, pl. 39. fig. A.

*Attacus pryeri*, Butl. Proc. Zool. Soc. 1878, p. 397; Ill. Typ. Lep. Het. pt. iii. p. 11, pl. xliii. fig. 4 (1879).

*Attacus vesta*, Walk. Cat. Lep. Het. Suppl. ii. p. 525 (nom. cat.).

*Attacus walkeri*, Feld. Wien. ent. Mon. vi. p. 34.

A beautiful series, coll. Pryer.

The only difference between the representatives of this species from Japan (*A. pryeri*) and those from Kiukiang (*A. walkeri*) lies in the tint of ground-colour; this in the former is brownish olive, but in the latter greenish olive, or, in other words, there is more brown in the composition of the colour of *A. pryeri* than in that of *A. cynthia* or *A. walkeri*. There is, however, one specimen among Pryer's series which is not so brown as the other examples from Japan, and less green than Kiukiang specimens.

Yokohama (*Jonas and Pryer*); Kiukiang (*Pratt*); N. China, Ningpo.

#### 256. ACTIAS SELENE.

*Tropæa selene*, Hübn. Verz. Schmett. p. 152. 1588.

*Actias selene*, Macleay; Leech, Zool. Misc. ii. pl. 70.

*Actias ningpoana*, Feld.

*Saturnia artemis*, Brem. Etud. Entom. Motsch. 1852, p. 64; Bull. Acad. Pétersb. 1861, tom. iii.; Lep. Ost-Sib. tab. ii. figs. 6 ♂, 7 ♀.

*Tropæa gnoma*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 480 (1877); Ill. Typ. Lep. Het. pt. ii. p. 17, pl. xxv. fig. 1 (1878).

*Tropæa aliena*, Butl. Ann. & Mag. Nat. Hist. (5) iv. p. 355 (1879).

*Tropæa dulcina*, Bntl. Trans. Ent. Soc. 1881, p. 14.

In size and in tint of coloration this is a most variable species. Among the Japanese specimens in my collection (19 in number) there are green, whitish-green, yellowish-green, and bluish-green examples, ranging from 108 to 150 millim. in expanse. The costal

<sup>1</sup> As in other instances where slight aberrant forms have been elevated to specific rank.

stripe of primaries varies in width as it also does in tint, being sometimes rosy and sometimes dark purple, always bounded internally with black, and often though not invariably edged externally with white. The ocellus of primaries is as inconstant in shape as in size, and in some examples small and round, in others linear, and in others again large and oval, whilst the black outline, which is usually only distinct on the inner edge of these ocelli, is in some few examples entire and conspicuous. The submarginal and basal lines are in the different specimens either sharply defined, faint, or quite absent.

Yokohama (*Jonas, Pryer, and Manley*); Akita, Gensan (*Leech*); Kiukiang (*Pratt*).

#### 257. BRAHMÆA JAPONICA.

*Brahmæa japonica*, Butl. Ent. Month. Mag. x. p. 56 (1873); Ill. Typ. Lep. Het. pt. ii. p. 17, pl. xxvi. fig. 3.

? = *Brahmæa mniszehi*, Feld. Reise Nov. Lep. iv. pl. xciii. figs. 4, 5 (1864-5).

A fine series, coll. Pryer.

This is a variable species both as regards ground-colour and markings. Thus the former may be white or grey, and sometimes tinged with green; then the number of ocelli in central band and "rounded internal spot" is not the same in any two individuals comprised in my series of 15 specimens. The spot referred to sometimes has three ocelli across its centre on one wing, but its companion on the other wing has four. In all cases the number of ocelli, both in the spot and central band, is greater on one side than the other. Again, the shape of the central band is subject to modification, and stages in the formation of the rounded internal spot from the lower portion of this band are exhibited in the specimens in my Japanese series; thus between an example in which the band is entire from costa to inner margin, and but slightly contracted below the middle, and a specimen with the rounded spot completely formed and quite independent, there are all the intermediate stages.

Yokohama (*Pryer*).

#### 258. BRAHMÆA CERTHIA.

*Bombyx certhia*, Fabr. Ent. Syst. iii. 1, p. 412. 16.

*Bombyx wallichii*, Gray, Zool. Misc. p. 39.

*Brahmæa carpenteri*, Butl. Ann. & Mag. Nat. Hist. (5) p. 114 (1883).

*Saturnia lunulata*, Motseh. Etud. Entom. 1852, p. 64; Mén. Lep. Ost-Sib. p. 55 (1859); Rom. Mém. sur Léop. iii. p. 345.

*Saturnia undulata*, Brem. & Grey, Schmett. Nörd. China's, p. 16, tab. v. fig. 3 (1853); (*Brahmæa*) Rom. Mém. sur Léop. iii. p. 345.

*Brahmæa carpenteri*, Butl., is the only form of *B. certhia* recorded from the region under consideration. But this at best can only rank as a variety of *certhia*.

## 259. RHAMNOSA? ANGULATA.

*Rhamnosa? angulata*, Fixsen, Rom. Mém. sur Lép. vol. iii. p. 339, pl. 15. fig. 1.

Corea (*Herz*).

## 260. CLOSTERA ANASTOMOSIS.

*Bombyx anastomosis*, Linn. Syst. Nat. x. p. 506.

*Clostera anastomosis*, var. *orientalis*, Fixsen, Rom. Mém. sur Lép. iii. p. 350.

Five examples, coll. Pryer. Japanese specimens agree well with European.

Yesso (*Pryer*); Corea; Europe.

## 261. CLOSTERA ANACHORETA.

*Bombyx anachoreta*, Fabr. Mant. Ins. ii. p. 120; Hübn. Bomb. pl. 22. fig. 88.

*Bombyx curtula*, Esp. Schmett. iii. pl. 51. figs. 1-4.

*Clostera anachoreta*, Steph. Ill. Brit. Ent. Haust. ii. p. 13.

I took one example at Hakodate in August, and there was a nice series in Pryer's collection. The specimens are very typical.

Yokohama (*Pryer*); Hakodate (*Leech*); Europe.

## 262. GONOCLOSTERA TIMONIDES.

*Pygæra timonides*, Brem. Lep. Ost-Sib. p. 45 (1864).

*Pygæra timoniorum*, Brem. *op. cit.* pl. v. fig. 3.

*Gonoclostera latipennis*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 476 (1877); Ill. Typ. Lep. Het. pt. ii. p. 13, pl. xxvii. fig. 2 (1878).

Eight examples, coll. Pryer, and one taken by myself at Hakodate in August.

Yokohama, Nikko (*Pryer*); Hakodate (*Leech*); Amur.

## 263. DATANOIDES FASCIATA.

*Datanoides fasciata*, Butl. Ent. Month. Mag. xiv. p. 207 (1878); Ill. Typ. Lep. Het. pt. iii. p. 2, pl. xliii. fig. 4 (1879).

Several specimens in Pryer's collection, including two examples which were separated from the rest and labelled "No. 237. *Datanoides?* sp."

Yokohama (*Jonas* and *Pryer*).

## 264. DATANOIDES APPROXIMANS, sp. n. (Plate XXXII. fig. 4.)

♂. Primaries chocolate-brown, with purplish reflections on basal patch and outer margin; central fascia dull brown, bounded on each side by a yellowish line; discal spot black. Fringes chequered. Secondaries fuscous. Head, thorax, abdomen, and legs brown, tarsi whitish; antennæ pectinated nearly to apex. Under surface fuscous, outer border of all the wings brownish, inclining to chestnut at apex of primaries.

♀. Similar to the ♂, but paler.

Expanse, ♂ 27 millim., ♀ 34-40 millim.

This species is allied to *D. fasciata*, but the different coloration and the shape of central fascia, which in *D. approximans* is much attenuated towards inner margin, and has its outer edge twice indented, readily separates the two species. The secondaries in both sexes are also much darker than in *D. fasciata*.

Several specimens, coll. Pryer (No. 238).

Yokohama (*Pryer*).

265. *ROSAMA PLUSIOIDES*.

*Rosama plusioides*, Moore, Desc. Ind. Lep. Atk. i. p. 62 (1879).

*Ptilodontis ornata*, Oberth. Etud. d'Entom. x. p. 15, pl. ii. fig. 5 (1884).

Two examples in Pryer's collection, placed with the Liparidæ and labelled "167. *Orgyia?* sp."

Japan (*Pryer*); Darjeeling; Sidemi.

266. *ROSAMA CINNAMOMEA*, sp. n. (Plate XXXI. fig. 11.)

♂. Primaries cinnamon-brown, streaked with darker from apex to centre of wing, and with ill-defined darker basal and discal lines. Apical and discal spots blackish. Secondaries fuscous brown. Head, palpi, and thorax dark brown; abdomen fuscous. Under surface of primaries brown with paler margins; secondaries and abdomen yellowish grey.

Expanse. 33-35 millim.

I took an example at Nagasaki in June, and there was one in Pryer's collection.

Nagasaki (*Leech*); Ohoyama (*Pryer*).

267. *ROSAMA MACRODONTA*.

*Rosama macrodonta*, Butl. Cist. Ent. vol. iii. p. 127 (1885).

One example, coll. Pryer.

Japan (*Pryer*).

268. *PTILODONTIS PLUSIOTIS*.

*Ptilodontis plusiotis*, Oberth. Etud. d'Entom. v. p. 65, pl. vii. fig. 3 (1880).

A female example at Gensan in July; two males, coll. Pryer.

The three specimens agree well each with the other, but neither of them are quite like Oberthür's figure of his *P. plusiotis*; however, as my insect has been identified by Herr Banghaas as that species, I am content to let it stand as such, especially as I have not seen Oberthür's type.

Nikko, Oiwake (*Pryer*).

269. *PLATYCHASMA VIRGO*.

*Platychnasma virgo*, Butl. Trans. Ent. Soc. 1881, p. 596.

Four examples, three of which are from coll. Pryer, and one taken by myself at Gensan in July.

Nikko (*Pryer*); Tokio (*Fenton*); Gensan (*Leech*).



## 270. Ptilophora plumigera.

*Bombyx plumigera*, Esp. Schmett. iii. p. 50. pl. 50. figs. 6, 7 (1785); Hübn. Bomb. pl. 58. fig. 250.

A single example (♀) in Pryer's collection; this is no. 236 of his catalogue.

Yokohama (January, *Pryer*); Europe.

## 271. Pterostoma palpina.

*Bombyx palpina*, Linn. F. S. p. 305; Syst. Nat. xii. p. 828; Hübn. Bomb. pl. 4. fig. 16.

*Ptilodontis grisea*, Brem. Lep. Ost-Sib. p. 45, pl. v. fig. 2 (1864).

A very fine series in Pryer's collection, varying much in the tone of ground-colour. I took two specimens at Nagasaki in June.

In Japanese examples of this species the fringe of the tooth-like projection on inner margin is but little, if any, darker than the ground-colour of primaries, and the specimens are, on the whole, much larger than European examples: thus, one female expands 72 millim. and a male 58 millim., whilst the smallest of Pryer's measures 52 millim. No. 222, Pryer's Catalogue, is referable to this species.

Yokohama, Oiwake (*Pryer*); Hakodate, Nagasaki (*Leech*).

## 272. Microdonta bicolora.

*Bombyx bicoloria*, Schiff. S. V. p. 49; Esp. Schmett. iii. pl. 41. fig. 7.

*Bombyx bicolora*, Hübn. Bomb. pl. 5. fig. 18.

*Microdonta bicolora*, Duponch. Cat. Lep. p. 93.

Two examples (♂ ♀) in Pryer's collection. Referring to these in his catalogue, Pryer says: "Two specimens only; one taken by my collector in my presence, on the 18th June, 1876, at Fujisan, at rest in an alder, at an elevation of 5000 feet; the other I myself took, at light, on the 19th June, 1881, at Nikko."

Fujisan, Nikko (*Pryer*); Europe.

## 273. Nerice bipartita.

*Nerice bipartita*, Butl. Cist. Ent. iii. p. 119 (1885).

Two examples, coll. Pryer. "210. *Clostera*? sp." of catalogue. Nikko, Yesso (*Pryer*); Sapporo (*Lewis*).

## 274. Nerice bidentata.

*Nerice bidentata*, Walk. Cat. Lep. Het. v. p. 1076 (1855).

*Nerice davidi*, Oberth. Etud. d'Entom. vi. p. 17, pl. ix. fig. 2 (1881).

I took two examples of this North-American species at Hakodate in August.

Hakodate (*Leech*); North China (*David*); North America.

## 275. Edema nivilinea, sp. n. (Plate XXXII. fig. 1.)

Primaries olive, traversed by a longitudinal white streak from the base to just beyond the middle of wing, where it terminates in a

bluish-grey spot; at apex is an irregular shaped whitish patch enclosing some leaden-coloured spots and dashes, the inner margin broadly suffused with leaden grey. Secondaries dark brown, paler towards the base. Head and collar olive, thorax leaden grey. Abdomen fuscous grey. Under surface pale yellowish grey, with discal spots and dash on costa before the apex of primaries whitish; outer margins of primaries and secondaries fuscous, the latter has a central line also fuscous.

Expanse, ♂ 31 millim., ♀ 33 millim.

Two examples, coll. Pryer (no. 658).

Oiwake, June and July (*Pryer*).

276. NOTODONTA METICULODINA.

*Notodonta meticolodina*, Oberth. Etud. d'Entom. x. p. 16, pl. i. fig. 3 (1884).

One example, coll. Pryer.

Sidemi (*Jankowski*); Yesso (*Pryer*).

277. NOTODONTA LINEATA.

*Notodonta lineata*, Oberth. Etud. d'Entom. v. p. 61, pl. ii. fig. 7 (1880).

One example, coll. Pryer.

Japan (*Pryer*); Askold.

278. NOTODONTA MONETARIA.

*Notodonta monetaria*, Oberth. Etud. d'Entom. v. p. 62, pl. ii. fig. 6.

This is no. 220 of Pryer's Catalogue, and there were three specimens in his collection. I took an example at Nagahama, in July.

Yokohama (*Pryer*); Nagahama (*Leech*); Askold.

279. HUPODONTA CORTICALIS.

*Hupodonta corticalis*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 475 (1877).

Yokohama (*Jonas*).

280. DRYMONIA CHAONIA.

*Bombyx chaonia*, Hübn. Bomb. pl. 3. figs. 10, 11.

Four specimens, coll. Pryer.

Gifu, Yokohama (*Pryer*).

281. DRYMONIA MANLEYI, sp. n. (Plate XXXII. fig. 2.)

♂. Primaries ashy white, with an almost straight dark chocolate transverse band edged internally with a narrow line of the ground-colour, and enclosing a dark chocolate basal patch, distinct only between the median nerve and inner margin; beyond the middle is another chocolate-brown band elbowed just below the costa, and then running parallel with outer margin to the inner margin, beyond this the wing is pale olive-brown, through which the nervules show up darker. Secondaries brown, with central band darker. Head chocolate. Thorax greyish, with chocolate-coloured collar. Abdo-

men olive-brown. Under surface pale olive-brown, darker towards base and costa of primaries; a central darker band on all the wings. Femora of anterior legs chocolate.

♀. Paler, and the wings longer, giving the markings a more elongate appearance.

Expanse, ♂ 47 millim., ♀ 51 millim.

This species has a superficial resemblance to *D. chaonia*, but is abundantly distinct from that insect.

A fine series in Pryer's collection.

Yokohama (*Pryer*).

282. *DRYMONIA DELIA*, n. sp. (Plate XXXII. fig. 3.)

♂. Silvery grey, primaries with two pairs of parallel lines near the base, the area enclosed being pale greyish brown in colour, clouded along the costa from middle to near apex with brownish; submarginal line double, dark brown, much indented; a small brown discal dot followed by a reniform spot, outlined in black, and filled in with reddish brown; a series of black-margined lunules. Secondaries olive-brown. Head and thorax greyish brown. Abdomen olive-brown. Under surface pale brown, central area of primaries darker.

Expanse 44 millim.

Also allied to *D. chaonia*.

One example, coll. Pryer.

Oiwake (*Pryer*).

283. *DRYMONIA TRIMACULA*.

*Bombyx trimacula*, Esp. Schmett. iii. p. 46. t. 46. figs. 1. 2 (1785).

*Bombyx dodonæa*, Hübn. Bomb. pl. 3. fig. 8.

One example in Pryer's collection, without locality label.

Japan (*Pryer*); Europe.

284. *LOPHOPTERYX CAMELINA*, L.

*Bombyx camelina*, Linn. Syst. Nat. x. p. 507.

I took two male specimens at Gensan in June 1889, and a female at Hakodate in August of same year; there were several specimens in Pryer's collection, some of these are no. 231 and others no. 232 of his Catalogue. Of the last he observes very like *N. camelina*. Although there is some variation in size and colour, there is nothing outside the usual range of aberration, and there is not a single specimen I cannot exactly match with an example of *L. camelina* from my European series of the species.

Nikko, Fujisan, Oiwake (*Pryer*); Hakodate, Gensan (*Leech*); Amur; Europe.

285. *LOPHOPTERYX LADISLAI*.

*Lophopteryx ladislai*, Oberthür, Diagn. Lép. Ask. p. 13; Etud. d'Entom. v. p. 66, pl. ii. fig. 3.

One male example in Pryer's coll. taken at Nikko. This species appears to be very closely allied to *L. cuculla*, Esp.

Nikko (*Pryer*); isle of Askold.

286. *LOPHOPTERYX PRYERI*.

*Lophopteryx pryeri*, Butl. Ann. & Mag. Nat. Hist. (5) iv. p. 355.

A long series in Pryer's collection varying much in character of markings; the extremes between which the specimens vary are a pale grey example with dark brown central band and hind marginal streaks and clouds on the one hand, and an almost unicolorous fuscous brown example on the other. A specimen of the last form referred to was separated from the series and numbered 228, whilst other examples of the same form still remained in the series of no. 229.

Yokohama, Yesso, Oiwake (*Pryer*).

287. *LOPHOCOSMA ATRIPLAGA*.

*Notodonta (Lophocosma) atriplaga*, Staud., Rom. Mém. s. Léop. iii. p. 220, pl. xii. fig. 8.

One ♀ example, coll. Pryer.

My specimen has a short black dash on the costa near the base; this in Staudinger's figure of the male is represented by a small black spot.

Japan (*Pryer*); Vladivostok; Askold.

288. *HYBOCAMPA MILHAUSERI*.

*Bombyx milhauseri*, Fabr. S. E. p. 577 (1775).

*Bombyx terrifica*, Schiff. S. V. p. 63 (1776); Hübn. Bomb. pl. 8. figs. 32, 33.

Three specimens, somewhat darker than European examples. Ohoyama (*Pryer*); Yokohama (*Manley*); Europe.

289. *PHALERA FUSCESCENS*.

*Phalera fuscescens*, Butl. Trans. Ent. Soc. 1881, p. 597.

I took an example at Gensan in July. Two specimens, coll. Pryer.

Oiwake, Fujisan (*Pryer*); Gensan (*Leech*).

290. *PHALERA TENEBROSA*.

*Phalera tenebrosa*, Moore, Proc. Zool. Soc. 1865, p. 815.

One example, coll. Pryer (no. 226).

Yokohama (*Pryer*); Darjeeling.

291. *PHALERA SIGMATA*.

*Phalera sigmata*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 473 (1877); Ill. Typ. Lep. Het. pt. ii. p. 11, pl. xxiv. fig. 9 (1878).

I have thirteen specimens, nine of which were in Pryer's collection; all are greyer in colour than Mr. Butler's figure, and in some of the examples the indented transverse line posterior to the patch of raised black and white scales is ochraceous and in others blackish. The antennæ of the males are not so strongly pectinated.

Yokohama (*Jonas, Pryer, and Manley*); ♀, Hakodate (*Whitely*).

## 292. PHALERA FLAVESCENS.

*Phalera flavescens*, Brem. Lep. Nörd. China's, p. 14 (1853).

*Trisula andreas*, Oberth. Etud. d'Ent. v. p. 38, pl. v. fig. 4.

Yesso (*Pryer*); Yokohama (*Pryer*, *Manley*, and *Leech*); Hakodate, Gensan.

## 293. MICROPHALERA GRISEA.

*Microphalera grisea*, Butl. Cist. Ent. vol. iii. p. 120 (1885).

Ten specimens in coll. *Pryer*, and several collected by myself.

Yesso (*Pryer*); Hakodate (*Leech*).

## 294. SOMERA ACRONYCTA.

*Dasychira acronycta*, Oberth. Etud. d'Ent. v. p. 35, pl. v. fig. 8 (1880).

Three examples (2 ♂, 1 ♀), coll. *Pryer*.

The insect figured by Oberthür as the ♂ of this species (fig. 7) is *D. lunulata*.

Yokohama, Oiwake (*Pryer*).

## 295. SOMERA CYANEA, sp. n. (Plate XXXII. fig. 5.)

♂. Primaries pale purplish brown, with some green and grey scales towards the base along the costa and on the outer margin, indistinct basal and submarginal lines fuscous. Secondaries smoky brown; costal margin darker. Antennæ broadly pectinated. Head and thorax grey. Abdomen smoky brown. Under surface fuscous; nerves at base of primaries thickly clothed with long hairs.

♀. Similar to male, but primaries greenish grey, and antennæ more narrowly pectinated. Under surface, the hairs at base of primaries as in male.

Expanse, ♂ 44 millim., ♀ 54 millim.

Allied to *S. lichenia*, Butl., from Borneo.

## 296. CNETHODONTA GRISESCENS.

*Cnethodonta grisescens*, Staud., Rom. Mém. sur Lép. vol. iii. p. 214, pl. 12. fig. 11.

A single male in coll. *Pryer*, taken at Oiwake, 1885.

Dr. Staudinger records this species from Vladivostok, Askold, Ussuri, and Suifun.

## 297. PERIDEA CINEREA.

*Peridea cinerea*, Butl. Ann. & Mag. Nat. Hist. (5) iv. p. 353 (1878).

Some very fine examples in *Pryer*'s collection; I took specimens at Yokohama, in October.

Yokohama (*Pryer* and *Leech*); Gifu (*Pryer*).

298. *PERIDEA GIGANTEA*.

*Peridea gigantea*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 474 (1877); Ill. Typ. Lep. Het. pt. ii. p. 12, pl. xxiv. fig. 6 (1878).

One specimen in Pryer's collection, not labelled with locality, but probably from Yokohama.

Yokohama (*Jonas*, ? *Pryer*).

299. *STAUROPOUS FAGI*.

*Bombyx fagi*, Linn. Syst. Nat. x. p. 508; Hübn. Bomb. pl. 8. fig. 31. *Stauropus persimilis*, Butl. Ann. & Mag. Nat. Hist. (5) iv. p. 353 (1879).

A nice series in coll. Pryer, ranging in expanse from 52 millim. ♂ to 78 millim. ♀.

Yokohama, Oiwake (*Pryer*).

300. *STAUROPOUS TACZANOWSKII*.

*Harpyia taczanowskii*, Oberth. Et. Ent. v. p. 59, pl. 2. fig. 5 (1880).

Six specimens in Pryer's collection (no. 200 of his catalogue) are referable to this species. I have also an example which I took at Fushiki in July.

Yokohama (*Pryer*); Fushiki, Aug., Foochau, April (*Leech*).

301. *DRYMONIA CIRCUMSCRIPTA*.

*Drymonia circumscripta*, Butl. Cist. Ent. vol. iii. p. 125 (1885).

This species, of which there were two examples in his collection, is no. 211 of Pryer's Catalogue.

Nikko (*Pryer*).

302. *DRYMONIA PERMAGNA*.

*Drymonia permagna*, Butl. Trans. Ent. Soc. 1881, p. 21.

Three specimens from Japan.

Tokio (*Fenton*); Yokohama (*Pryer* and *Manley*); Hakodate (*Leech*).

303. *DICRANURA VINULA*.

*Bombyx vinula*, Linn. Syst. Nat. x. p. 499; Hübn. Bomb. pl. 9. fig. 34.

*Dicranura felina*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 474 (1877); Ill. Typ. Lep. Het. pt. ii. p. 12, pl. xxiv. fig. 3 (1878).

Several specimens in coll. Pryer. I bred a male, April 1887, from larva found at Gensan, June 1886. Mr. Butler says that his *D. felina* "differs from both the European species in the more deeply waved discal lines, and from *D. vinula* in its white secondaries;" but I cannot see that my Japanese specimens, which are identical with *felina*, Butl., differ in any character whatever from *D. vinula*. Pryer states in his Catalogue that the larva of *D. felina*, Butl., feeds on willow, and that in all its stages it agrees with *D. vinula*.

Yokohama (*Pryer*); Gensan (*Leech*); Europe.

## 304. DICRANURA ERMINEA.

*Bombyx erminea*, Esp. Schmett. p. 19. 1, 2 (1783); Hübn. Bomb. pl. 9. fig. 35.

*Cerura menciiana*, Moore, Ann. & Mag. Nat. Hist. (4) xx. p. 89 (1877).

One female specimen taken by my native collector at Hakodate in June. Agrees well with examples from Europe.

Hakodate; Shanghai, Foochan (*Leech*); Europe.

## 305. CERURA FURCULA.

*Bombyx furcula*, Linn. F. S. p. 298; Hübn. Bomb. pl. 10. fig. 39.

*Cerura lanigera*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 474 (1877); Ill. Typ. Lep. Het. pt. iii. p. 10, pl. xliii. fig. 11 (1879).

The specimens in coll. Pryer and one I took at Gensan agree exactly with European examples of *C. furcula* in my collection, and also with *C. lanigera*, Butl.

Hakodate (*Whitely*); Yokohama (*Pryer*); Gensan (*Leech*); Corea (*Herz*); Europe.

## 306. CERURA BIFIDA.

*Bombyx bifida*, Hübn. Bomb. pl. 10. fig. 38.

One example in Pryer's collection with *C. furcula*.

Yokohama (*Pryer*); Europe.

## 307. DESTOLMIA INSIGNIS.

*Destolmia insignis*, Butl. Trans. Ent. Soc. 1881, p. 19.

Tokio (*Fenton*).

## 308. FENTONIA OCYPETE.

*Harpyia ocypete*, Brem. Bull. Acad. Pétersb. 1861, tom. iii.; Lep. Ost-Sib. p. 44, tab. v. fig. 1.

*Fentonia levis*, Butl. Cist. Ent. vol. iii. p. 129 (1885).

Several examples, coll. Pryer.

Yokohama, Oiwake (*Pryer*).

## 309. PHRAGMATÆCIA CASTANEA.

*Phalæna-Bombyx castanea*, Hübn. Beitr. ii. Theil, p. 9 (1790); Esp. Schmett. p. 94. 1, 2.

*Bombyx arundinis*, Hübn. Bomb. pl. 47. figs. 200-1 (1803).

I captured a specimen at Hakodate in August, and my native collector took one at the same place in June or July. There were two Yokohama examples in coll. Pryer, and I have another taken by Mr. Andrews at Hakodate, making a total of five, all males. There is not the least difference between Japanese and British specimens.

Yokohama, Hakodate; Europe.

## 310. TARSOLEPIS REMICAUDA.

*Tarsolepis remicauda*, Butl. Ann. & Mag. Nat. Hist. (4) x. p. 125.

? = *Crinodes sommeri*, Hübn., cf. Ritsema & Butler, *op. cit.* pp. 228, 274, 446.

A battered example of this remarkable species in coll. Pryer. This has no date or locality ticket attached.

Darjeeling, Borneo, Java.

### 311. GORGOPIS NIPHONICA.

*Gorgopis niphonica*, Butl. Ann. & Mag. Nat. Hist. (5) iv. p. 357 (1879).

Two examples in Pryer's collection taken at the foot of Ohoyama, near Yokohama, and one taken by myself at Tsuruga in July.

Yokohama (Pryer); Tsuruga (Leech).

### 312. HEPIALUS HECTUS.

*Phalæna hecta*, Linn. Syst. Nat. x. App. 822; Hübn. Bomb. pl. 49. figs. 208 ♂, 209 ♀.

*Hepialus hectus*, Ochs. Schmetterl. Eur. iii. 116.

Two examples, coll. Pryer. These are identical with some British specimens of *H. hectus* in my possession.

Yesso (Pryer).

### 313. HEPIALUS EXCRESCENS.

*Hepialus excrescens*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 482 (1877); Ill. Typ. Lep. Het. pt. ii. p. 20, pl. xxvii. fig. 7 (1878).

*Hepialus æmulus*, Butl. A. M. N. H. (4) xx. p. 482; Ill. Typ. Lep. Het. pl. xxvii. fig. 8.

Several specimens in Pryer's collection, among which are both the forms described by Mr. Butler. I have examined these most carefully, and endeavoured to find some trustworthy character that would give specific distinction; but have failed to discover anything of the kind. Intermediates between the two forms are represented in the series before me, and the range of variation is not nearly so extensive as in some well-known species of the genus found in Europe, *H. vellela* for example.

Mr. Pryer, who appears to have had excellent opportunities of deciding, was of opinion that *H. æmulus* and *H. excrescens* were identical. In his Catalogue there is a note on the economy of the species, which it may be interesting to give *in extenso*:—

“Yokohama, very abundant; it emerges late in the autumn; large specimens measuring  $4\frac{1}{2}$  to 5 inches in expanse; it is very destructive, particularly to imported fruit-trees, in the stem of which it burrows two years; it is extremely prolific, the body of a full-sized female is two inches long, filled with minute eggs, which it scatters loosely about the tree it feeds on; I have found it in almost all trees except conifers; it often attacks vines, and prefers to burrow in the stem of a tree to which a wisteria or other climber is attached. The ichneumon that preys upon this insect is a most extraordinary one; the body is short and oval and measures  $\frac{1}{2}$  an inch, but the ovipositor is 9 inches long. Expanse of wings  $1\frac{1}{2}$  inch.”



*H. excrescens* is closely allied to the Indian *H. pauperatus* of Walker; some of the Japanese specimens of the former have the "small black-edged white spots" and other characters of the latter. Yokohama (*Jonas and Pryer*); Yesso (*Pryer*); Hakodate (*Pryer*).

#### 314. PHASSUS SIGNIFER.

*Phassus signifer*, Walk. Cat. Lep. Het. vii. p. 1568 (1856); Butl. Ill. Typ. Lep. Het. pt. vi. p. 30, pl. cix. fig. 2 (1886).

*Phassus sinensis*, Moore, Ann. & Mag. Nat. Hist. (4) xx. p. 94 (1877).

*Phassus herzi*, Fixsen, Rom. Mém. sur Lép. iii. p. 335, pl. xv. fig. 3.

A most variable species both as regards colour and ornamentation as well as size. In my series from Japan and Corea (which comprises three examples from Satsuma, taken in May, three from Gensan, June, one Shimonoseki, July, and six coll. *Pryer*) there are specimens only 46 millim. in expanse, whilst others attain a wing expansion of 110 millim. Butler gives 150 millim. as the measurement of Walker's type of *P. signifer* from Silhet. The oblique silver dash at end of cell is present in three examples; but this character is subject to considerable modification, and although never entirely absent is in two examples reduced almost to vanishing point. In other specimens this mark is of large size, and there is another round or linear spot just beyond it. The silver spot nearer the base of primaries is also inconstant in form, and sometimes very indistinct. Occasionally there are other silver spots on the disk and at apex of primaries.

*Pryer* says that at Yokohama the species emerges in the summer, and is rather scarce.

Yokohama, Oiwake (*Pryer*); Satsuma, Shimonoseki, Gensan (*Leech*); Corea (*Herz*); Silhet.

#### 315. ZEUZERA PYRINA.

*Phalæna-Noctua pyrina*, Linn. F. S. p. 306.

*Phalæna-Noctua æsculi*, Linn. Syst. Nat. xii. p. 833.

*Bombyx æsculi*, Hübn. Bomb. pl. 47. fig. 202.

I got a specimen at Gensan in July, and there were four examples (3 ♂, 1 ♀) in *Pryer's* collection, one of which was taken at Fujisan by Mr. *Maries*.

Gensan (*Leech*); Yokokama (*Pryer*); Fujisan (*Maries*).

#### 316. COSSUS VICARIUS.

*Cossus vicarius*, Walk. Cat. Lep. Het. Suppl. p. 584 (1865).

I took a male example at Gensan in July, and a female bred from a larva found in the same month at Fushiki. There were also three specimens in *Pryer's* collection, which must have been obtained after the publication of his Catalogue, as he says, p. 40:—"I have seen the larva of a *Cossus* here, but have not taken the perfect insect; the larvæ were small, but exactly like *C. ligniperda*." My observations of the larva coincide exactly with *Pryer's* remarks thereon.

*C. cossus* is recorded by Fixsen as taken in Corea by Herz, but this is possibly an error in identification.

Shanghai; Fushiki, Gensan (*Leech*); Yokohama (*Pryer*).

317. *RODONTIA LURIDA*.

*Rodontia lurida*, Fixsen, Rom. Mém. sur les Léop. vol. iii. p. 346, pl. xv. fig. 8.

Corea (*Herz*).

318. *AROA JONASI*.

*Aroa jonasii*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 402 (1877); Ill. Typ. Lep. Het. pt. ii. p. 10, pl. xxiii. fig. 11 (1878).

A fine series in Pryer's collection. I got specimens in Satsuma in May, Nagasaki in June, Gensan in July, and at Hakone in August. There is some variation in the size of the brownish discal spot; this is sometimes little more than a dot, and at others quite a round patch. The apical spot is also subject to modification, and in some examples assumes the form of a short stripe. In some specimens there are brownish spots and dots over the whole of the disk.

Yokohama (*Jonas* and *Pryer*); Oiwake (*Pryer*); Hakone, Satsuma, Nagasaki, Gensan (*Leech*).

319. *ARGYRIS PLAGIATA*.

*Argyris plagiata*, Butl. Trans. Ent. Soc. 1881, p. 22.

Tokio (*Fenton*).

320. *ARGYRIS SUPERBA*.

*Argyris superba*, Butl. Ill. Typ. Lep. Het. pt. ii. p. 52, pl. xxxvii. fig. 2 (1878).

An extensive series, the majority of the specimens taken by myself at Hakodate.

Yokohama (*Jonas* and *Pryer*); Oiwake (*Pryer*); Hakodate (*Leech*).

321. *ARGYRIS SUPERANS*.

*Argyris superans*, Butl. Cist. Ent. vol. iii. p. 122 (1885).

*Problepsis discophora*, Fixsen, Rom. Mém. Léop. iii. p. 348, pl. xv. fig. 4 (1887).

A female example in coll. Pryer. I took a male at Satsuma in May, and a female at Gensan in July; this last is remarkable for its large size, as it expands 58 millim. The largest specimen of the same sex I have from either Ningpo or Kiukiang measures only 40 millim. in expanse.

Yesso (*Pryer*); Satsuma, Gensan (*Leech*); Kiukiang (*Pratt*); Ningpo.

322. *ARGYRIS MAIA*, sp. n. (Plate XXXII. fig. 6.)

White. Primaries with a large pear-shaped leaden-grey blotch in centre of wing, but not reaching the costa, this is outlined in ferruginous, speckled with silvery-blue scales, and has a projection from

its inner edge about the middle, and one on its external edge above the middle; the lower half is bordered on each side by a black line and at the inner marginal extremity is a bright red spot. Secondaries with some irregular silver outlined ferruginous markings along the abdominal margin and outer half of wing. Antennæ pectinated. Head white; thorax and abdomen white, marked with ferruginous and grey. Under surface white, with a blackish central band and apical spot, the former not reaching the costa, and the latter elongated, some blackish marks along outer margin of secondaries.

Expanse 48 millim.

A single specimen taken at Gensan in July by myself.

323. *CALLICILIX ABRAXATA*.

*Callicilix abraxata*, Butl. Cist. Ent. iii. p. 124 (1885).

Yesso, Nikko (*Pryer*).

324. *DREPANA SCABIOSA*.

*Drepana scabiosa*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 478 (1877); Ill. Typ. Lep. Hët. pt. ii. p. 15, pl. xxv. fig. 9 (1878).

A nice series, coll. *Pryer*. I caught one specimen at Shimonoseki in May. This species is very closely allied to *D. harpagula*, Esp. (= *sicula*, Hübn.); but the apices are much less produced and there is no black angulated line internal to the grey submarginal stripe. The discal spots of *D. scabiosa* are, moreover, of a different character.

Yokohama (*Jonas* and *Pryer*); Oiwake (*Pryer*); Shimonoseki (*Leech*); Corea (*Herz*).

325. *DREPANA PATRANA*.

*Drepana patrana*, Moore, Proc. Zool. Soc. 1865, p. 816.

This is no. 245 of *Pryer*'s catalogue, and there were three examples in his collection.

Fujisan, Nikko, Oiwake (*Pryer*); Darjeeling.

326. *DREPANA PALLEOLUS*.

*Drepanulides? palleolus*, Motsch. Bull. de la Soc. Imp. Nat. Mosc. t. xxxix. p. 193 (1866).

I took a large number of this species at Hakodate in August, and my native collector got a few in June and July at the same place, I have also one example from Hakone, and there were nine in coll. *Pryer*.

Hakodate (*Leech*); Hakone (*Smith*); Oiwake, Fujisan, Ohoyama, and Yesso (*Pryer*).

327. *DREPANA JAPONICA*.

*Drepana japonica*, Moore, Ann. & Mag. Nat. Hist. (4) xx. p. 94.

Several specimens, coll. *Pryer*. I took an example at Nagasaki in

June. The outer line terminates on the inner margin, just beyond the middle, and the inner line does not always reach the costa. Most of the specimens have a small spot at end of cell on primaries, but in only two specimens is there any trace of such spot on secondaries.

Expanse 30 to 40 millim.

Japan (*W. B. Pryer*); Yokohama, Gifu (*Pryer*); Nagasaki (*Leech*).

### 328. DREPANA CURVATULA.

*Bombyx curvatula*, Bork. Eur. Schmett. iii. p. 460.

*Bombyx harpagula*, Hübn. Bomb. pl. xi. figs. 42, 43 (*non* Esp.).

*Drepana acuta*, Butl. Trans. Ent. Soc. 1881, p. 596.

One example taken at Gensan in June and one coll. Pryer, no. 243; these agree exactly with my European specimens of *D. curvatula*. Another specimen in Pryer's collection and two from Hakodate are very pale in colour and bear a superficial resemblance to *D. falcataria*, but the characters of marking show them to be more properly referable to *D. curvatula*.

Ohoyama (*Pryer*); Hakodate (*Leech*).

### 329. DREPANA CROCEA, sp. n. (Plate XXXII. fig. 7.)

♂. Yellow. Primaries suffused with reddish; dentated basal, angulated central, and wavy submarginal lines purplish brown, two paler discal spots; below the apex, which is much curved and produced, are two conspicuous black spots placed on the inner edge of a dark patch; a line of blackish crescents traverses the wing, near to and parallel with outer margin, three of these lunules in the dark apical patch are edged externally with white. Secondaries yellow, an 8-shaped mark outlined in purplish brown, filled in with whitish, from this to the inner margin are some smaller brown spots; basal and submarginal lines slender and purplish brown, a series of black linear spots parallel with outer margin. Under surface yellow, with black discal and marginal spots.

Expanse 50 millim.

Allied to *D. flava*, Moore.

One example, coll. Pryer.

### 330. ORETA TURPIS.

*Oreta turpis*, Butl. Ann. & Mag. Nat. Hist. ser. 4, vol. xx. p. 477 (1877); Butl. Lep. Het. Brit. Mus. part ii. p. 14, pl. xxv. fig. 8.

I did not meet with this species in Japan or Corea, neither is it in coll. Pryer.

Yokohama (*Jonas*).

### 331. ORETA CALIDA.

*Oreta calida*, Butl. Ann. & Mag. Nat. Hist. (4) xx. p. 477 (1877); Ill. Typ. Lep. Het. pt. ii. p. 14, pl. xxv. fig. 6 (1878).

A fine series, coll. Pryer.